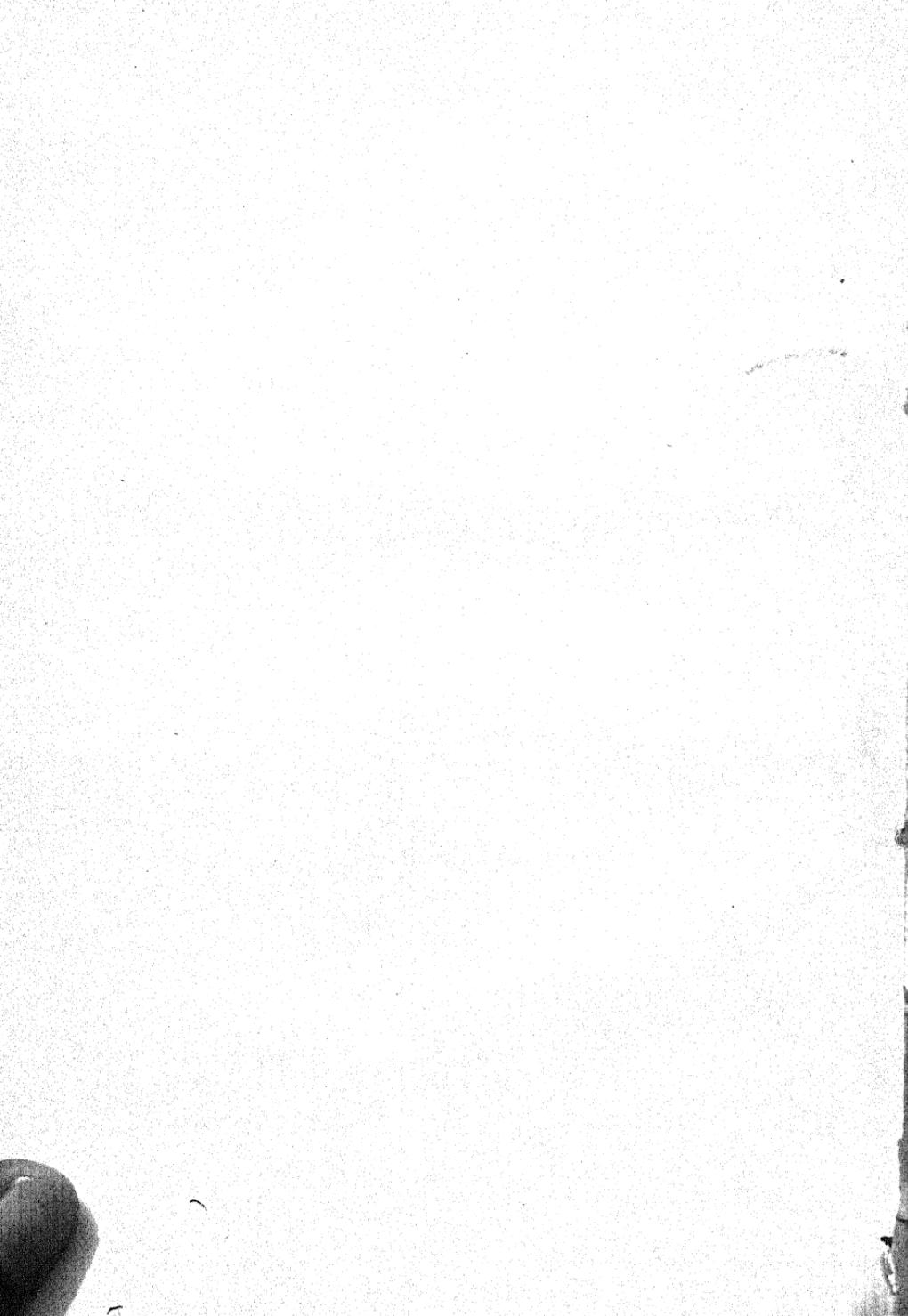


THE
NUMISMATIC CHRONICLE
AND
JOURNAL OF
THE ROYAL NUMISMATIC SOCIETY



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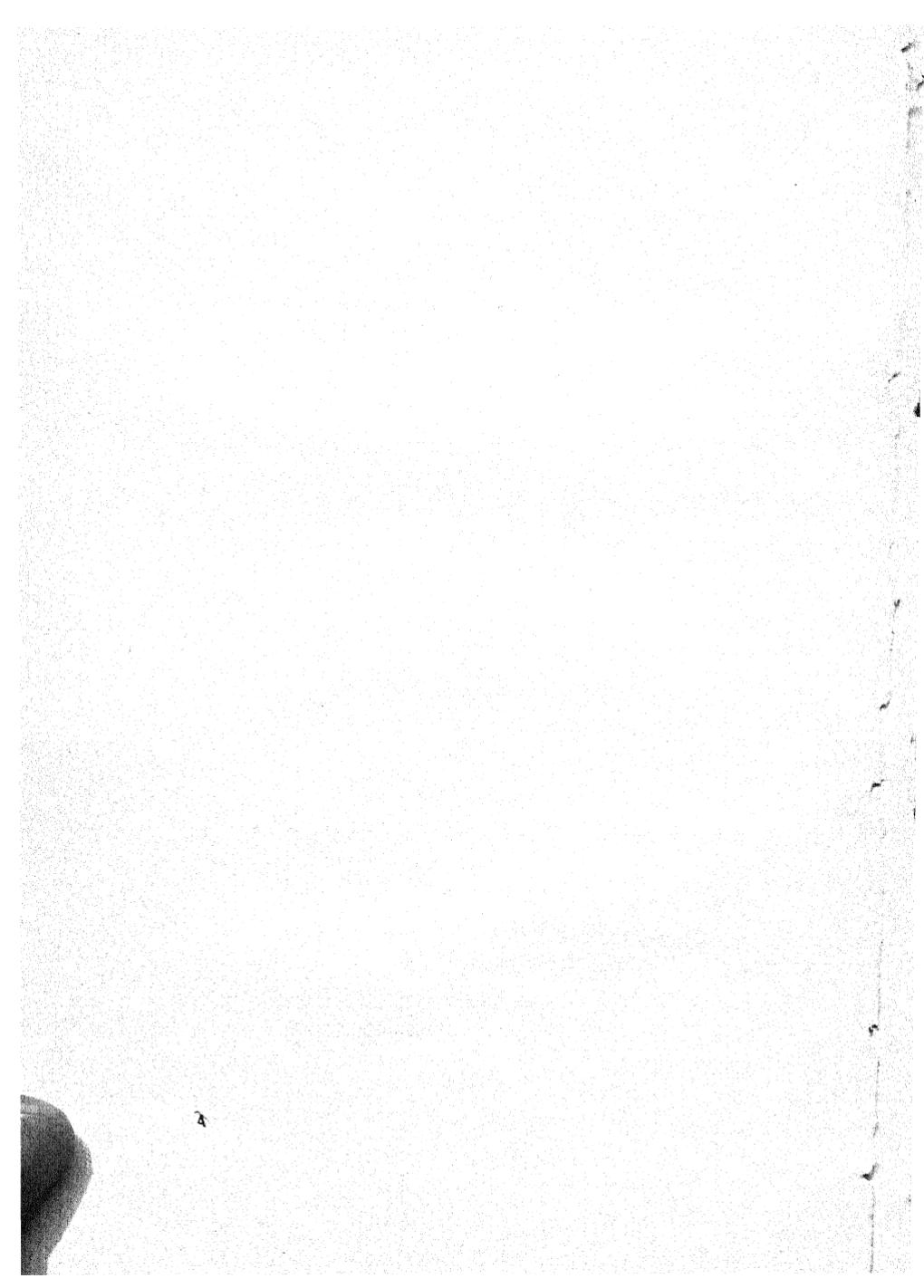
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PROCEEDINGS OF THE ROYAL NUMISMATIC SOCIETY

(separately paged) 1-41



I.

GREEK COINS ACQUIRED BY THE BRITISH
MUSEUM IN 1923.

[SEE PLATES I, II.]

Sicily. Morgantina.

1. *Obv.*—Head of nymph l., crowned with water-plant, wearing triple-drop ear-ring and necklace; around, three dolphins; between the heads of the two which meet in front of the face, a globule. Below head, traces of a monogram. Border of dots.

Rev.—**MΟΡΓΑΝΤΙΝΩΝ** in exergue. On a moulded base-line, fast quadriga l., the horses in step; the charioteer holds the goad over their heads; above, Nike flying r. to crown him. Border of dots.

\varnothing ← 23 mm. Wt. 17.33 g. Pl. I.

Another specimen of this, the only known tetradrachm issue of Morgantina, has been republished by Mirone from the Pennisi collection.¹ It is, so far as one can judge from the illustration, from the same dies as the present specimen, and, though less well preserved, it shows more traces of the monogram, the presence of which on ours would otherwise hardly have been suspected. This monogram is read by Mirone as **ΑΡ**.

The coin is evidently inspired, not directly by a decadadrachm of the types of Euaenetus, but by the rare

¹ *Rer. Num.*, 1918, pp. 112–121. Mirone points out that the coin was described as early as 1832 by Gius. Alessi, but that this publication escaped the attention of all later students.

tetradrachm of Syracuse, on the reverse of which the inscription is placed in the exergue in the same way as on this piece, while the base-line takes the same unusual form.² This Syracusan tetradrachm probably belongs to the same issue as the decadrachm which also bears a globule in front of the face of Arethusa.³ The engraver at Morgantina removed the globule to the space between the heads of the two dolphins; he took away the fourth dolphin from under the truncation, in order to find room for his monogram; but otherwise he made as faithful a copy as his skill allowed. That it is a copy and not from the same hand as the Syracusan tetradrachm is clear when one puts the two coins side by side; the Morgantine artist shows less subtlety in modelling.

I have called the head 'a nymph'; whether she had a name at Morgantina, and how far she is to be identified with any of the female heads that are found on the coins of the place, I cannot say. The one thing that is clear is that she is not Persephone, although many writers, in spite of the correction of the old error by Müller, Imhoof, and Tudeer,⁴ continue to describe the leaves of the wreath on Syracusan coins of the Euaenetus type as corn-leaves, or even to say that she is crowned with *épis*, when no ear of corn is visible.

Tudeer⁵ places the tetradrachm of Syracuse in question among the last tetradrachm issues of

² Hill, *Coins of Ancient Sicily*, Pl. VI. 17; Tudeer, *Z.f.N.* 30, p. 73, no. 106.

³ Hill, *op. cit.*, frontispiece, no. 6.

⁴ See the last in *Z.f.N.*, p. 274.

⁵ *Z.J. N.*, pp. 202 f.

Dionysius, at a time when he had stopped the regular striking of tetradrachms, and only issued them occasionally. After this period there is no issue of tetradrachms until the time of Agathocles; and the Agathoclean tetradrachms are closely modelled on the decadraochms of Euaenetus, such as that on which the tetradrachm itself is modelled. Accepting Tudeer's dating, we may place the Syracusan model about 330-370. On it the head of Arethusa is still on the reverse, the chariot being produced by the anvil die. The Morgantina coin, on the other hand, was struck at a period when the head had been transferred to the obverse. Had it not been so, some concavity would certainly have been visible on the obverse, where a good deal of metal is shown outside the border of dots opposite the forehead of the nymph. This is not in itself a proof of lateness; for the Syracusan rule that the head should be produced by the reverse die did not prevail everywhere, and was not even universal at Syracuse; so that Morgantina need not have observed it. All that we can say is that the Morgantine tetradrachm is probably later than the reign of Dionysius I, since it is copied from one of his latest issues. The substitution of a monogram for one of the dolphins, on the other hand, suggests a later origin. It is familiar to us from the first Agathoclean tetradrachms.⁶ Some of these are little less fine in style than that of Morgantina, and the question arises: how near to the time of Agathocles can we bring down the date of the latter? It has still a certain freshness and naïveté of conception, in contrast to the pretty,

⁶ Hill, *Anc. Sicily*, Pl. XI. 9.

sophisticated head of the Agathoclean coins; and one would rather date it a little before 350 than after. It is difficult to follow Sambon, who places it in the period 394 or 392 to 370 B.C., although the strong Syracusan influence would be explained by the fact that Dionysius seized Morgantina about 394. On the other hand, the style is much better than that of the bronze coins which seem to belong to the revival after Timoleon's expedition. I am inclined to suggest that the tetradrachm should be dated in the period between 367 and 345. Possibly Dionysius II held Morgantina for a time, and struck the coin; possibly it was struck during the relaxation of the Syracusan tyrant's dominion in the time of Dion. As to the Syracusan influence apparent in its style, where Syracusan coins must have formed the mass of the currency in circulation, we are not bound to look for a political reason for the imitation of a Syracusan model.

Sarmatia. Chersonesus Taurica.

2. *Obv.*—Head of Artemis r., laureate, hair taken up into chignon at back; behind neck, top of bow and quiver.

Rev.—**X EP** on r. downwards; below, **YMNOY** Artemis huntress l., kneeling with r. knee on a fallen stag; she seizes an antler with l., in her r., drawn back, is her bow. Slightly concave field.

AR ↑ 19 mm. Wt. 3.98 g. *Pl. I.* From the collection of the Grand Duke Alexander Michailovich.

Other specimens of the same magistrate's coinage were in the same collection (Naville Catal., iv, 1922, Pl. XIX, no. 511) and in that of Bertier de la Garde (*Ibid.*, v, 1923, Pl. XLVIII, no. 1587). These two share one obverse die, different from that described above

(there is no chignon); all three reverse dies are different. Possibly no. 1589 in the Bertier de la Garde collection (since acquired by the British Museum) was also of the same magistrate. No. 1588 is read **EYPYMMY** by the cataloguer; examination of the cast shows that **EYPYMNOY** must be read, a rare but possible name. This coin belongs to the same time as the others. As noted elsewhere (*Num. Chron.*, 1923, p. 219, note 7), an astynomos of Chersonesus at the end of the fourth or beginning of the third century was called Hymnus, and it may be he who issued the coins bearing that name.

Thrace. Maronea.

3. *Obv.*—Horse prancing l. with loose rein; below, trident-head l. (same die as B.M.C., *Thrace*, p. 125, no. 121).

Rev.—[E]Γ[I]/**HPA/ΚΛΕΙ/ΔΟ** about a linear square within which vine with four bunches of grapes. Concave field.

$\text{AR} \leftarrow 26$ mm. 10.98 g. Worn. Pl. I. From Bulgaria.

The name Herakleides (gen. *Ἡρακλείδεω*) occurs on a triobol of the same period as this coin (B.M.C., no. 43). The use of the Attic form of the genitive is not customary at Maronea.

Lysimachus.

4. *Obv.*—Head of Athena r., wearing crested Corinthian helmet, serpent on bowl: she wears ear-ring and necklace.

Rev.—**ΛΥΣΙΜΑΧ•[Y]** on r. downwards, **ΒΑΣΙΛΕΩΣ** on l. downwards. Nike walking l., holding wreath in extended r.; in field l., forepart of Pegasus l. and forepart of lion l.; below r. wing of Nike, harpé?.

$\text{A} \rightarrow 19$ mm. Wt. 8.57 g. Pl. I. From the collection of the Grand Duke Alexander Michailovich.

I am not quite sure that the apparent harpé is not merely due to a flaw in the die.

Macedon. Mende.

5. *Obv.*—Dionysos, bearded, reclining l. on an ass walking r.; his head in profile l.; he wears himation about lower limbs, and holds kantharos in r. Before the ass, a nude bearded horse-tailed satyr walking r., wine-skin over l. shoulder, supporting his steps with a thyrsos. Border of dots.

Rev.—**M E N Δ A I O N** about the sides of a linear square, within which a vine with five clusters; on top of the vine a tettix. All in shallow incuse square.

A ↓ 28 mm. Wt. 17.15 g. Pl. I.

6. *Obv.*—Dionysos, bearded, reclining l. on an ass walking r., his head turned three-quarters r.; he wears woolly himation about lower limbs, and holds in r. kantharos with its foot resting on his r. knee. In exergue, caduceus and NI. Border of dots.

Rev.—Similar, generally, to preceding, but only four clusters and no tettix.

A ↓ 27 mm. Wt. 17.28 g. Pl. I.

These two coins, of which the second is one of the most beautiful specimens of the coinage of Mende, came from the famous find.⁷ The former is placed by Regling among the earliest of the issues of the period 450–423 b.c. (his group I A). The style is coarse, the drawing far from perfect (the immense size of the god's head may be noticed). The tettix which, perched

δενδρέων ἐπ' ἀκρων
δλίγην δρόσον πεπωκώς
βασιλεὺς ὅπως ἀείδει,

⁷ Baéelon, *Rev. Num.*, 1922, pp. 103–120; Regling, *Z.f.N.*, 1923, pp. 7–35.

adds a pleasing variety to the ordinary type. This reverse die is used for another tetradrachm, on the obverse of which the symbol in front of the ass is a crow (or starling, as Regling thinks it may be) on a plant. For both the obverse types used with this reverse more than one die was used; but I leave the tracing of the sequence to the scholar who is understood to be at work on the subject.

The second coin, of the finest gem-like style, with a decorative treatment of the vine reminding us of the best Italian rendering of the oak in the arms of the della Rovere, is the work of an artist whose signature appears to be given in the exergue. The reading **NI** is certain. This coin, like the one published in this place last year (*Num. Chron.*, 1923, p. 215), belongs to the second part of the period 450-423.

Philip II.

7. *Obv.*—Laureate male head r.

Rev.—Biga r., charioteer holding up goad in r., horses prancing; in field r., seven-pointed star and  ; in exergue **ΦΙΛΙΠΠ·Υ** and lagobolon.

Field concave.

A ↓ 19 mm. 8.56 g. Pl. I. From Sotheby's Sale, 20. iv 1923, lot 298.

Not recorded by Müller. It is connected with the staters on which the lagobolon in the exergue is associated with a similar star and the monogram  in the field (Müller, 101; Egger Sale, 17. i. 1908, lot 418; Hirsch, xix, lot 316, and xxxiv, lot 284); also with Müller, 100, which has this monogram and the star, but no lagobolon. The British Museum specimen of this last and the Egger specimen just mentioned are from the same obverse die as our new coin.

Demetrius Poliorcetes.

8. *Obv.*—Head of Athena r. in crested Corinthian helmet, with coiled serpent on the bowl; hair in formal curls.

Rev.— $\Delta\text{HMHTPIOY}$ on r. downwards, $\text{BA} \Sigma\Lambda\Omega\Sigma$ on l. downwards. Nike walking l., holding wreath in extended r., naval standard in l.; in field, below r. wing, $\textcircled{\text{X}}$; below l. wing, X .

$A\downarrow$ 19.5 mm. Wt. 8.57 g. Pl. I. From the collection of the Grand Duke Alexander Michailovich.

Other specimens (not from the same dies as this) with the same mint-marks are recorded in Egger Sale, xli, lot 434; Sotheby's, 21. iv. 1909, lot 38; and *Num. Zeitschr.*, xlvi (1913), Pl. VI, no. 4. In style the obverse is much inferior to the reverse, and looks like an unsuccessful attempt to suggest the features of the king.

Olympia.

9. *Obv.*—Eagle standing r. on supine hare, wings raised and parallel (die of Seltman, Pl. VIII, no. 4). Four countermarks: ram walking l., six-spoked wheel or six-rayed star, Nike (?) walking l. (only feet and skirt visible), and head r.

Rev.—Thunderbolt between F A . All in incuse circle.

$A\uparrow$ 19 mm. Wt. 5.99 g. Pl. I.

A drachm apparently of Seltman's Group B (c. 471–452 B. C.).

10. *Obv.*—Head of Hera r. wearing stephanos decorated with row of palmettes; behind, F ; [in front, A].

Rev.—Eagle standing r., head l., wings raised and open; on l. Γ , on r. O all in olive-wreath.

$A\uparrow$ 22 mm. Wt. 12.23 g. Pl. I.

A fifth specimen of Seltman, no. 292 (c. 385–365 B. C.).

11. *Obv.*—Head of Hera r., hair rolled and taken up behind; wears stephane decorated with two scrolls, necklace, but no ear-ring; on l. and r. of neck, **F A.**

Rev.—Eagle standing r. on rock (?), head l. Concave field. A crack in the die extends from shoulder of the bird's l. wing to its feet.

$\text{AR} \rightarrow 17$ mm. Wt. 2.95 g. Pl. I.

A drachm of Seltman's Group G H (363-*c.* 323).

Tenos.

12. *Obv.*—Beardless male head r., laureate, with ram's horn at temple.

Rev.—**THNΙΩΝ** on r. downwards. Poseidon, nude to waist, seated l. on throne with back; rests with l. on trident, holds dolphin in r.; in field l., bunch of grapes; feet on stool; below seat,  Border of dots. Field slightly concave.

$\text{AR} \uparrow 28.5$ mm. Wt. 13.15 g. Pl. II.

This appears to be from the same dies as the Photiades-Imhoof-Berlin specimen.⁸ The latter coin weighs 14.20 grs. (the weight given in Head's *Hist. Num.*² should be 219 instead of 209). There is thus a difference of over a gramme or 16 grains between the two; our specimen has, however, been rather heavily cleaned, the back of the head on the obverse having been especially thickly covered with oxide. The difference in weight is not surprising when compared with that which is seen in the contemporary coinage of the Ptolemies, then the real masters of the island, as of all the members of the Nesiotic League. The obverse of our coin is clearly inspired by the type of the coins of Lysimachus; it may be dated towards the end of his reign (281 b.c.) or a little later.

⁸ *Num. Chron.*, 1895, p. 274, Pl. X. 9.

Bosporus. Paerisades.

13. *Obv.*—Head of king r., with flowing hair, diademed, as on coins of Lysimachus, but without ram's horn.

Rev.—[ΒΑ]ΣΙΛΕΩΣ on r. downwards, [ΠΑ]ΙΡΙΣΑΔ on l. downwards. Athena seated l., in extended r. Nike moving towards her to crown her, spear leaning across r. shoulder; beside seat, shield; under seat ΠΡ; in exergue, trident l.

A ↑ 18.5 mm. Wt. 8.37 g. Pl. II. Slightly double-struck on rev.

This stater belongs to the same group, though it is not struck from the same dies, as that in the Hunter Collection (Macdonald, ii, Pl. XLV. 5; Minns, *Scythians and Greeks*, Pl. VI. 20) and that described by Mionnet (ii, p. 358, no. 2); that is to say, Minns's third group. He points out that there seems to be very little difference in style between the first three groups, and that all may perhaps belong to Paerisades II, whose date is from 284/3 to after 292; at the same time he thinks that a later date, about 200 B.C., would suit the coins better. With this I entirely agree, and should be willing to bring the coins down to the middle of the second century; in which case we may accept his second suggestion that they belong to the Paerisades (III?) whose date is fixed by the epigraphic evidence to about that time (Minns, *op. cit.*, pp. 580-2).

Mysia. Cyzicus.

14. *Obv.*—Head (without neck) of Athena, directly facing, wearing close-fitting helmet with transverse crest, cheek-pieces and neck-piece; below, tunny l.

Rev.—Mill-sail incuse square.

EL 20 mm. Wt. 16.04 g. Pl. II.

Compare *Nomisma*, vii (1912), Taf. II. 21 (Paris specimen) = Babelon, *Traité*, Pl. CLXXXIII. 20. Also Greenwell, no. 30, Pl. II. 7 = Regling, *Samml. Warren*, Taf. XXXIII, 1448, ex Whittall Sale (1884), 756. The Greenwell coin and ours are from the same obverse die; the die of the Paris coin is slightly different.

This interesting stater is placed by von Fritze in his Group II a, in the period 550-470 b.c. It is certainly an early coin, and its appearance in Babelon's *Traité* among issues of the fourth century is surprising.

The small projections at the sides of the cheeks (which are covered by cheek-pieces) are the edges of the flap covering the neck behind. The representation of the crest raises the old problem⁹ whether it was really a transverse crest, or whether it is one of the ordinary kind which the engraver was unequal to drawing in perspective. The latter is almost certainly true of the double-crested helmet on the coins of Lapethus (B.M.C., *Cyprus*, Pl. vi. 6-8), where the two crests, which were really parallel, are shown in side-view. Also it may be argued that Athena charging in a helmet transversely crested would certainly be carrying too much top-hamper. The same problem arises with the coins of Mesembria. At the time when most of these were made, the artists were perfectly capable of foreshortening a longitudinal crest. Unless, then, they were archaizing (as indeed they were in using the old sign for σσ) we must assume that the crest was really transverse.

Ionia. Erythrae.

15. *Ob.*—Head of young Herakles r. in lion-skin.

Rev.—(from l. to r.) ΕΡΥ on l. upwards, above which owl l.; club downwards; ΠΕΛΟΠΙΔΗΣ upwards; bow in case; on r., below, monogram.

AR ↓ 25 mm. Wt. 13.92 gr. Pl. II.

⁹ Daremburg-Saglio, *Dict.*, s.v. *galea*, p. 1436.

The monogram is probably the same as on B.M.C., no. 42, and on the tetradrachm of Phannothemis (Bunbury Sale II, lot 180, now in the British Museum). The drachm of Pelopides with another monogram is known (B.M.C., nos. 54, 55).

Caria. Aphrodisias.

16. *Obv.* — ΚΡΙΣΠΕΙΝΑ ΑΥΓΟΥСΤΑ Bust of Crispina r.

Rev. — ΙΕΥCCTΠ A ΛΩΞΟC around, l. to r., and in exergue ΑΦΡΟΔΕΙCI | ΕΩΝ Zeus Spaloxos, nude to waist, seated l. on throne with back, r. holding Nike, l. resting on sceptre.

A ↓ 32.5 mm. Wt. 20.99 gr.

The reading of the epithet of Zeus is due to Mr. A. B. Cook. The coin is unfortunately so badly preserved that it is useless to reproduce it. The fourth letter from the end may perhaps be A. The form Spalōxos is vouched for by an inscription, whereas the Etymologicum Magnum gives Pálaxos (v.l. Pálexos) or Spáloxos. The epithet is discussed by Mr. Cook in the forthcoming second volume of his *Zeus*.

17. *Pisidia. Minassus.*

Mr. A. M. Woodward has presented a specimen of the false alliance coin of Minassus and ΑΑΡΑΣΕΩΝ, of which I gave a note in the *Num. Chron.*, 1920, p. 278. He believes this to be the actual specimen referred to by Head, as quoted in that note. It is a cast, as I explained, from a coin of Laodicea and Pergamum, on which the inscriptions have been altered by tooling; but the figures have not suffered so much as in the Cambridge specimen.

Curiously enough, about the time when the note above mentioned was appearing, the late M. Ernest

Babelon was defending the authenticity of the Waddington specimen, in which the second name is given as **KONANΕΩΝ**, supporting his argument by a new coin of alliance between Minassus and Conana.¹⁰ Unfortunately, I hardly think that he has strengthened his case, for the authenticity of the extraordinary piece which he has described needs a good deal of proving.

Cyprus.

The Museum has been able to acquire a selection from a collection made over a long period of years in Cyprus. Many small varieties come to swell the Museum series; and the evidence of Cypriote provenance settles the attribution of a number of Imperial coins which have hitherto been regarded as uncertain. The following may be mentioned :

Salamis.

18, 19. *Obv.*—Ram's head 1.

Rev.—Ankh with dotted ring, within which $\beta\alpha$; in the four corners, $\rho^{\mu} \lambda^{\alpha}$ $\tau\alpha \kappa\alpha$ all in incuse square.

$\text{AR} \uparrow 9.5$ mm. Wt. 0.86 gr. Pl. II.

$\text{AR} \downarrow 9.5$ mm. Wt. 0.78 gr.

These two obols of Lacharidas are certainly from the same reverse, and probably from the same obverse, die. Tetrobols and diobols of the same group are already known (B.M.C., *Cyprus*, p. xciii, nos. 3 a, b, c).

20. *Obv.*—Ram's head 1.

Rev.—Ankh with dotted ring, within which $\nu\iota$; all in incuse square.

$\text{AR} \leftarrow 9$ mm. Wt. 0.83 gr. Pl. II.

Similar to the obol at Turin (*ibid.*, p. xciii, no. 3 d).

¹⁰ *Rev. Num.*, 1920, p. 111, Pl. vi, fig. 3.

21. *Obl.*—Ram's head r. Border of dots.

Rev.—Double ring (plain within, dotted without) of ankh without shaft; within, $\kappa\nu$; all in shallow incuse circle.

$\varnothing R \rightarrow 8.5$ mm. Wt. 0.38 gr. Pl. II.

The half-obol corresponding to the obol, B.M.C., p. lxxxviii, no. 7 e, of which a specimen (0.73 gr.) has also been acquired.

22. *Obl.*—Ram's head l.

Rev.—Dotted ring of an ankh; within, on raised disk, traces of a sign. All in incuse circle.

$\varnothing R 8$ mm. Wt. 0.40 gr. Pl. II.

From another specimen slightly less worn on the reverse, acquired in 1903, it seems possible that the sign is $\beta\alpha$.

23. *Obl.*—Ram's head l.

Rev.—Sign $\beta\alpha$ within a linear square, all in incuse circle.

$\varnothing R 7$ mm. Wt. 0.38 gr. Pl. II.

Golgi?

24. *Obl.*—Head of lion r., jaws open.

Rev.—Incuse square.

$\varnothing R 9.5$ mm. Wt. 1.02 gr. Pl. II.

Cyprus. Imperial Times.

25. *Obl.*— $\circ AVGST \cdot TRIB \cdot POT \cdot PONT \cdot M[AX]$
Head of Augustus r. laureate. Border of dots.

Rev.— $\circ C \cdot CAESAR \cdot AVG \cdot F \cdot PRINC \cdot IVENT$
Head of Gaius r. bare. Linear border.

$AE \uparrow 25$ mm. Cp. Cohen, i, p. 183, no. 6.

26. *Obl.*—Similar to preceding, end of legend complete; border of dots.

Rev.— $C \cdot CAESAR \cdot AVG \cdot F \cdot PONT \cdot CO[S \cdot]$ Similar to preceding; linear border.

$AE \uparrow 25$ mm. Pl. II.

The Museum already possessed a coin with obverse similar to the first of these (from same die?) and reverse generally resembling the second; but the portion of the inscription in front of the head is blundered into **FBONT̄COS** I had previously read it **PRON·COS**

27. *Obv.*—**○ [CAESAR] AVG PAT·PATR** around, beginning on l. above.

Rev.—**○ CCA[ESAR·AVG.] F·PONT·COS** Similar to preceding; border obliterated.

$\text{Æ} \uparrow$ 25 mm.

Another from the same obverse die, already in the Museum, enables us to restore the beginning of the inscription. With this obverse compare Cohen, i, p. 182, no. 3.

These coins are all closely connected by their style. The fact that three out of the five now in the British Museum were found in Cyprus disposes of Cohen's attribution to Patrae.

28. *Obv.*—**Q ---- ΑΥΓΟΥCΤΟC** Bust of Caracalla r., radiate (?), wearing paludamentum and cuirass.

Rev.—**Q KOINON KVTPRIΩN** Eagle standing to front, wings spread, head l., wreath in beak.

$\text{Æ} \downarrow$ 26.5 mm.

29, 30. *Obv.*—**Q M·ANTΩNEINO ΣΑΥΓΟΥCΤΟC** Bust of Caracalla r., laureate, wearing paludamentum and cuirass.

Rev.—**Q ·Π·CΕΠ·ΓΕΤΑCKAICAP** Bust of Geta r., bareheaded, wearing paludamentum and cuirass.

$\text{Æ} \downarrow$ 28 mm.

$\text{Æ} \downarrow$ 27.5 mm. Same obv. die. Pl. II.

31. *Obv.*—Similar to preceding (different die).

Rev.—**QAVTO KAIC Π·CΕ ΠΠΙΜΙΟCΓΕΤΑC**
Bust of Geta r., laureate, wearing paludamentum
and cuirass.

$\text{Æ} \downarrow 29$ mm.

Another specimen, from different dies, was already
in the Museum.

Syria. Alexander I, Bala.

32. *Obv.*—Head of Alexander I r., diademed. Border of
dots.

Rev.—**ΑΛΕΞΑΝΔΡΟ[Υ]** on l., **ΒΑΣΙΛΕΩΣ** on r.
Eagle standing l., palm-branch over r. shoulder,
in field l. **ΔΞΡ**, r. **ΣΙΔΩ** and aphlaston.
Border of dots.

$\text{Æ} \uparrow 23.5$ mm. Wt. 7.05 gr. Pl. II. From the Sir Hermann
Weber Collection. Presented by the Rev. Edgar Rogers.

This didrachm is from the same obverse die as the
Paris specimen (Babelon, *Rois de Syrie*, Pl. XVIII. 11)
and another of the same year¹¹ for which a different
reverse die was used.

Arabia. Petra.

33. *Obv.*—**CAVTOKPATW -- TPAIANOCAΔPIA ---**
CTOC. Bust of Hadrian r., laureate, in paluda-
mentum. Across field, **K Θ**

Rev.—**Q - - - ΡΙΛΛΗΤΡΟΠΟΛΙC** Bust of City-
Tyche r., wearing turreted crown and veil.

$\text{Æ} \downarrow 20$ mm. Wt. 5.16 gr. Pl. II. Presented by Mr. L. A.
Lawrence.

In B.M.C., *Arabia*, p. xxxix, I stated that no dated
coins of Petra are known. The attribution of this coin
to Petra (which is due to Mr. Robinson) seems fairly
certain. The date 29 of the Arabian era of A.D. 106

¹¹ Hirsch, xxi, no. 4081. Hamburger Sale, Nov. 1909, no. 1237.

is comfortably within the reign of Hadrian. The coin, judging from its style, is certainly either Arabian or Mesopotamian. But a coin of Hadrian dated 29 will not fit into the series of any of the *metropoleis* in Mesopotamia, and in Arabia Petra is the only place with that title. ΡΙΛΛ is presumably a blunder for ΠΕΤ]ΡΑΜ.

Himyarites.

34. Signor Carlo Conti Rossini has recently called attention¹² to a class of minute bronze coins which he acquired in Abyssinia. They reproduce, in a very degraded form, the types and monograms of the gazelle-bucranium class. Thanks to the kindness of Lieut.-Commander C. Craufurd, the Museum has acquired twenty-four coins of the same class, but apparently of even smaller dimensions. While those already described range from 7 to 10 mm. in diameter and average 0.56 gr. in weight, ours range from 5.5 to 9.5 mm. in diameter and from 0.08 gr. to 0.41 gr. in weight. A specimen on which the head of the obverse and the bucranium of the reverse are more clearly visible than most is figured in Pl. II. 34. As Signor Conti Rossini observes, the existence of these coins shows that the coinage extended to a later date than is generally supposed, unless we assume that these wretched little bronzes were imitations made by another people. Our specimens were acquired by Lieut.-Commander Craufurd while at Aden; Signor Conti Rossini's in Asmara, the provenance being given as the neighbourhood of Aksum. But that proves

¹² In the *Rendiconti della R. Acad. dei Lincei*, cl. sci. mor. etc., vol. xxx, 1921, pp. 239 ff.

little, since great quantities of the Himyarite coins with the names of kings, struck at Raidan, have also been found in Abyssinia.

35. This is not the only class of bronze Himyarite coins. The Museum owes to Lieut.-Commander Craufurd a bronze piece of the same types as the gold piece of the San'a class (B.M.C., *Arabia*, &c., p. 54, no. 1, Pl. VIII. 1). It is in very poor state, and the head and body of the owl on the reverse have disappeared, but the rest can be made out with certainty. Its weight is 2.40 gr. A base silver piece of the same types, unfortunately broken (present weight 1.02 gr.), is in a private collection, which also contains a number of bronzes of considerable interest, which it is hoped will sooner or later be published.

Egypt. Berenice II.

36. *Obv.*—Bust of Berenice II r., veiled, wearing necklace.
Border of dots.

Rev.—Ω BEPENIKHΣ ΒΑΣΙΛΙΣΣΗΣ Cornucopiae,
filleted, between two stars; in field, below, Ε.
Border of dots.

A ↑ 27 mm. Wt. 21.36 gr. Pl. II.

A gold Attic pentadrachm, of which Svoronos (no. 973) has already noted four specimens. It appears to be from the same obverse die as the "Late Collector" specimen (Catal., no. 474); the reverse die is different from any that has been illustrated.

I have as usual to acknowledge many helpful suggestions in the course of this report from Mr. E. S. G. Robinson.

G. F. HILL.

II.

THE PERSIAN STANDARD IN IONIA.

ca. 320–280 B.C.

In a recent number of the *Numismatic Chronicle* (1922, p. 169) G. F. Hill called attention to the reversion from the Rhodian to the Persian standard which took place in the coins struck at several cities of Ionia and farther north in the period 320–280 B.C.: and as this change seems rather curious in view of the circumstances of that period, it is worth while to seek for an explanation of it. In the first place the extent of the evidence available may be reviewed, especially in regard to Ionia.

Some of the Ionian cities can be left out of account. There was probably no silver struck at Klazomenai, Kolophon, Leuke, Myos, or Phygela after 320: none at Phokaia or Teos between 320 and 190: and none at Lebedos or Smyrna before 190. Larissa, Metropolis, and Naulochos are not known to have issued silver at any time.

Ephesos provides the clearest evidence for dating the changes in question. Head classified under his periods vβ (301–295), vi (295–288), vii (288–280), and viii (280–258) certain series of silver coins, for the most part pieces of about 5–5½ grammes, with a few of half that weight (*Coinage of Ephesus*, pp. 37–48). The date of these issues is closely fixed by the fact that in period vii the name of the city appears as Arsinoeia,

not as Ephesos, which limits this particular period to the time when Lysimachos was master of Ephesos—i.e. 295–281: and this was further narrowed by Head to the latter part of the rule of Lysimachos. For many years before and after the issue of these series, the standard used at Ephesos was the Rhodian. Head regarded these coins as Attic octobols and tetrobols, and explained the use of this standard as an attempt to accommodate the Ephesian issues to the Attic tetradrachms of Lysimachos, while a relation was still maintained to the Rhodian standard, on which they would rank as $1\frac{1}{2}$ or $\frac{3}{4}$ drachmas. But this seems a clumsy kind of expedient for meeting the difficulty of equation, even supposing that it was likely to be felt—which, as will be suggested later, may be doubted: and Babelon's classification of the coins as Persian drachmas and half-drachmas is more natural.

At Erythrai nearly all the silver coinage of the fourth and third centuries was of Rhodian standard. But there are a few rare coins (Wadd. 1658, 1659, 1660, E. F. Weber sale 2846) ranging in weight from 2.45 to 2.80 grm., which are probably Persian half-drachmas, and from their style belong to the third century: those with the magistrates' names **ΗΓΗΣΙΑΣ ΑΡΧΕΣΤΡΑΤΟΥ** and **ΠΕΙΘΑΓΟΡΑΣ ΑΠΕΛΛΙΚΩΝΤΟΣ**, weighing 2.70 to 2.80 grm., may be dated to the first half of the century, while that of **ΦΙΛΙΣΚΟΣ ΠΥΘΙΚΩΝΤΟΣ** looks a good deal later, possibly about 200: it is also much the lightest of the group.

Silver coins of Herakleia, apparently of a similar standard—the larger weighing from 4.69 to 5.13 grm. (*Num. Chron.*, 1899, p. 101, *Z.f.N.* xxi. 221, Imhoof K7. M. 1, E. F. Weber sale 2860, Pozzi sale 2454, Lucerne

sale iv. 853, Lucerne sale v. 2557), the smaller from 2·42 to 2·47 grm. (B.M.C. 3, Pozzi sale 2455)—have been published as of the second century. But there seems no reason on grounds of style for not placing them in the latter part of the third : they are probably contemporary with the coins of Miletos of similar weight mentioned below, to which they approximate in style : Herakleia would be likely to be influenced by the example of its near neighbour Miletos.

The Magnesian didrachms of Persian standard have been discussed by Hill in the article quoted above. Smaller coins, doubtless drachmas and half-drachmas of the same standard, though classed in the British Museum Catalogue (Nos. 3-7) as Attic octobols and tetrobols, are not uncommon : the issue appears to have been a fairly extensive one, as at least four magistrates' names occur on the didrachms, eleven on the drachmas, and three (one common with the drachmas) on the half-drachmas. As noted by Hill, the earlier issues were on the Rhodian standard.

The silver issues of Miletos about this time show more variations. There is a long series of tetradrachms, drachmas, and half-drachmas, which can be dated with some certainty, as examples of them were found in the Pityos hoard, buried about 330: the issue of these presumably began after the death of Maussollos, and must have continued for some time, as forty-five magistrates' names are known: the standard is Rhodian. Later in style are some didrachms, on which about twenty magistrates' names occur: these also are of Rhodian standard, but lighter on the average than the previous issue, as is the case at Rhodes itself. Then comes a group of Persian didrachms, drachmas,

and half-drachmas, with about the same number of names, which seem to form a link in style between the Rhodian didrachms and the coins of Attic weight which were issued presumably after 190. There is no reason for disagreeing with the dating of the two latter series adopted in the British Museum Catalogue, where the Rhodian didrachms are assigned to the period 300–250, the Persian coins to 250–190.

Almost all the silver coinage of Priene belongs to the third century, and the greater part of it consists of what are called in the British Museum Catalogue Attic octobols and tetrobols, but are more probably Persian drachmas and half-drachmas: there are a few coins, all struck by one magistrate, Lysagoras, which appear to be Rhodian drachmas and half-drachmas (drachmas, B.M.C. 5, Bunbury sale 197, Northwick sale 1067: half-drachmas, B.M.C. 7, Bunbury sale 197, Waddington 1918, Rhousopoulos sale 3770). A single coin of unusual types (E. F. Weber sale 2938) may be a second-century Attic drachma.

The evidence from the districts north of Ionia is less important for the present purpose, as many of the cities had followed the Persian standard before the third century; and moreover comparatively few of them continued to strike silver after 300 B.C.: this was especially the case in Aeolis and Troas. It may, however, be noted that a didrachm of Kyme, of Persian weight, is dated to about the time of Antiochos I by Head (*H.N.*² p. 554), whereas the later third-century coins of Kyme are of a lighter standard. In Lesbos, Methymna and Mytilene had series of coins on the Persian standard which are accepted as coming down to about 250. The coinage of Abydos is more im-

portant, since E. S. G. Robinson has pointed out (*Num. Chron.*, 1921, pp. 12, 13) that the Rhodian standard was used there during the fourth century till the capture of the city by Philip, while the issues were resumed after the death of Alexander on the Persian standard. Kyzikos also, which had followed the Rhodian standard in the fourth century, struck a few Persian didrachms about 250 (Pozzi sale 2222 and one in my collection). And Kalchedon abandoned the Persian standard, which had been normal in Bithynia, late in the fourth century, but returned to it temporarily about 280.

Southwards of Ionia, the Rhodian standard generally held the field. But Knidos struck silver of Persian standard in the third century, and the drachmas and half-drachmas of Iasos, of about the same date, are of similar standard.

From the foregoing review it is clear that in the early years of the third century several of the chief towns on the west coast of Asia Minor changed the standard of their silver coinage to the Persian: and this standard continued to be used sporadically through the middle of the century. It is remarkable that this should have occurred just after the collapse of the Persian Empire, and the consequent disappearance of the ultimate sanction for the standard. While the Great King was striking sigloi, and these formed the main silver currency of his Empire, it was natural—especially on the accepted theory of the diffusion of coin-standards—that cities in close commercial relations with that Empire should conform to the same standard: but when the old standard had disappeared in Persia itself, and Alexander and his successors had

adopted the Attic standard for their coinage, these same cities might equally naturally have been expected to follow their example.

A possible explanation of these seemingly anomalous issues may be that the old Persian sigloi were used as blanks for their own coins by the Greek cities, without any adjustment of weight. Very large quantities of the sigloi had been in circulation in Asia Minor : and after the Persian Empire had ceased to exist, there was no reason for treating them otherwise than as bullion, which might as well be recoined. It would be less trouble to the mints to heat the sigloi and restrike them as they were (possibly fusing two together for a didrachm, or cutting one in two to make half-drachmas) than to melt a number down together and divide the mass out into blanks of a fresh standard of weight.

The use of old coins as blanks is not unfamiliar to students of Greek numismatics : and it may well have been much commoner than appears at first sight. The most obvious instances occur in regions where the technique of minting was comparatively crude—for instance, Crete and Lycia. But a competent workman would produce new coins from old without leaving any trace of the original types: and so in many series restriking can only be surmised to have existed, unless a fortunate chance discloses an example of defective work. For instance, Hill suggested (*Num. Chron.*, 1922, p. 9) that the spread tetradrachms of Ionia and Aeolis of the second century b c. may have been originally Alexandrines, which were hammered out: but no clear case of a restruck piece was known. Recently, however, I^e obtained a tetradrachm of Kyme, which is

unquestionably restruck: the reverse die has not got fully home, and, the coin being otherwise in very fine condition, remains of a previous type, probably the reverse of a tetradrachm of Alexander, can be discerned round the border.

So far, no instance of a coin showing traces of restriking seems to have been noted in the Ionian silver of the third century: but it is hardly likely that such would be found, in view of the generally good workmanship of the Ionian mints. It would be even less likely in cases of restriking Persian sigloi than of Alexandrine tetradrachms, since the sigloi would have to be very thoroughly heated, almost to melting-point, in order to make the lentoid blanks respond to the round Greek dies. But some clue may turn up otherwise, as has occurred in the following instance.

The first issue of tetradrachms under the Roman Empire in Egypt, in the seventh year of Tiberius, shows curious anomalies in the weights and the percentages of silver contents of individual coins (see "Alexandrian Tetradrachms of Tiberius", *Num. Chron.*, 1910, p. 333). Professor Petrie, however, pointed out to me that the percentage of silver in the coins analysed varied inversely to the weight, and that the actual silver content was usually approximately the same, about 3·6 grammes. As this is nearly the silver content of the contemporary Roman denarius, an explanation of the anomalies of the issue at once suggests itself. The Alexandrian mint officials had to produce a coin which would be recognized locally as the successor of the Ptolemaic tetradrachm: but this tetradrachm had, in the last century of Greek rule in Egypt, become very debased, and under Augustus was tariffed

for external exchange as the equivalent of the denarius. The simplest plan—especially as Egypt has no home supply of silver—for producing a coin in appearance like the tetradrachm, and in value equal to the denarius, was obviously to melt a denarius down with sufficient base metal to make up the required bulk: and this was in all probability what the officials did for this first issue.

If it be accepted that Greek cities on occasion used old coins as blanks without adjustment of weights, this may help to explain the apparent variations of standard which have complicated the classification of some series—for instance, the early coins of Lycia. As has been noted above, Lycia supplies some of the most obvious examples of restruck pieces, the previous mintage of which can sometimes be traced to other quarters of the Greek world, and notably to Thrace. If it may be assumed that the Lycian authorities, when they wanted to issue coins, simply took any old coin of convenient size that was at hand and restruck it with their own types, without troubling about adjustment of weight, the wide discrepancies in the weights of coins which appear otherwise to belong to the same series are less puzzling.

This assumption would involve that, in a region where such a practice prevailed in mintage, either scales must have been in constant use for commercial transactions where money passed, or a coin could have a nominal value which was not necessarily its exact bullion value. For a people in a comparatively elementary stage of business organization, the latter is perhaps the more probable supposition. Coined metal was only the commodity which had been found most convenient

for handling as a medium of exchange, and so had superseded other materials of the old process of barter: and it does not seem necessary to think that the ancient Greeks, when they stated a value in oxen, would expect each ox to be weighed or measured, or that, being accustomed to assess the currency value of an ox without the aid of scales, they would not be prepared to do the same with regard to a lump of silver. It seems probable that the original purpose of coinage, in the sense of the impression of a distinguishing mark on a piece of metal, was to guarantee the fineness rather than the weight of the metal: at any rate, the latter was much more readily ascertainable by the man in the street than the former: and, if the early Greek minting authorities meant to guarantee both, they did the more difficult task fairly well and the easier very badly.

Even in a more advanced state, the weight of metal in a coin mattered little for purposes of local circulation: what determined its value was the denomination attached to it by the government. So long as a coin was issued as a drachma and accepted officially as a drachma, the standard might be Persian or Attic or Rhodian or any other, and there would be no more difficulty in passing it in the city of its origin than there is to-day in this country in getting post-1920 silver taken as the equivalent of pre-1920 silver. There is abundant evidence in hoards that coins of different standards circulated together in the states of their origin: for instance, the great hoard of coins of Knidos found a few years ago in the Knidian Chersonese was largely composed of half-drachmas of Rhodian and Persian weight intermixed.

When a coin passed outside the territory of its home, its weight became of course a more material factor in its value: in many cases, indeed, it would be the sole practical factor. A few states, notably Athens, had definite regard to external circulation for their coins, and in these cases the weights were adjusted with some exactness, and it may be supposed that a money-changer in a foreign town would accept an Athenian tetradrachm at its face value: but the irregularity of weight of most Greek issues suggests that the authorities did not trouble about the valuation of their coins abroad, and concerned themselves solely with local circulation. If such coins were presented for use in a foreign town, they would only be accepted by weight as bullion: and their standard, or the nominal value attached to them on issue, would not be of any moment.

The coins struck at any one time in a Greek state did, it is true, as a rule approximate to a particular standard, though the standard might vary from time to time: but this does not conflict with the theory stated above. Professor Percy Gardner has traced the diffusion of standards in the Hellenic world to the lines of commerce (*History of Ancient Coinage*): and in accordance with this it seems quite natural that the coins passing along a line of commerce and reminted at successive points should follow one standard of weight. The standard would originate at a city which controlled mines or supplies of silver: other cities, which had no such home supplies, would take the coins that came to them in payment for their own produce as the readiest form of bullion for their own issues, instead of importing raw silver. Variation in

a standard might occur when the lines of commerce were diverted, or when, as in the case of the Persian sigloii in the third century, some exceptional event threw a large quantity of demonetized silver on the market.

It is possible that a further investigation of the weights of Greek coins might show the line of monetary flow more exactly, since each successive restriking of a coin would tend to diminish its weight, and, alternatively, the farther a coin travelled before restriking, the more it would lose from wear: so that any standard in use at a series of cities would appear to be gradually reduced at each stage from the point of its origin. An example of this can be found in Southern Italy, where the originating standard was the Corinthian: in the fifth and fourth centuries the staters of Tarentum show a slight reduction compared with those of Corinth, and those of Metapontum a further reduction, and so on till the lightest are found at Cumae and Naples. That coins of Corinth were actually restruck on this line of cities can be proved at Metapontum and Locri. The process of reduction is very similar to that which occurs in some series of silver and bronze struck at Greek cities, where the examples of any one denomination gradually tend to become lighter as time goes on, presumably through the restriking of old coins without the addition of any metal to make up for the loss from wear.

The following table shows the average weights of the staters struck at the chief mints on the Italian coast starting from Tarentum. The averages are obtained from the weights given in six recent catalogues,

and each is entered at the classification date nearest the mean point of its series.

	Bef.	500	480	440	400	360	320	280 and after.
Tarentum		7.91	7.89	7.70	7.73	7.62	7.67	6.40
Metapontum		7.88		7.46	7.59	7.75	7.67	
Heraclea						7.59	7.76	6.37
Sybaris		7.90						
Thurium				7.77	7.74		7.65	6.37
Croton		7.88	.	7.74	7.63		7.31	6.35
Caulonia		7.88		7.74				
Terina				7.59	7.52			
Laus		7.83	7.92					
Velia			7.57	7.55		7.39		
Poseidonia		7.37		7.74				
Naples				7.25	7.32	7.25	7.29	7.21
Cumae				7.23				
Nola						7.20		

J. G. MILNE.

III.

THE ROMAN "SERRATI".

[SEE PLATES III, IV.]

THE term "serratus" (saw-edged) has been commonly applied to several distinct classes of ancient coins with indented edge. The present paper, however, aims only at discussing one of these—the Roman—and that from the historical, rather than the technical, point of view. Not that there are no problems beyond. But the Roman "serrati" form a class by themselves and require separate treatment: and the questions relating to their fabric have already been submitted to full discussion.¹

The so-called "serrati" of Macedon and Syria are distinct from the Roman in almost everything but name. They are all of copper, and the serration of the edge consists of a series of rays or teeth projecting from the raised centre of the coin, undoubtedly produced by the casting of the blank in that shape. The motive for this procedure is unknown. The Macedonian serrati fall to the reign of Philip V, the Seleucid mainly to the period from Seleucus IV to Demetrius II. Quite distinct from these two classes are the Carthaginian "serrati", which are struck both in silver and electrum.

¹ Cp. Babelon, *Traité*, vol. i; Hill, *Num. Chron.*, 1922, pp. 41 ff.; Kolb, *R.N.*, 1921, *Procès Verbaux*, pp. xli ff.; Bahrfeldt, *Berl. Mzbl.*, 1904, pp. 438 ff.; Ullman, *Philological Quarterly*, Iowa, 1922, pp. 311 ff.

The types are: *obv.* head of nymph l., *rev.* free horse r., with star in field (on silver only), the weights about 50 gr. (3·23 grm.) for the electrum, 204 gr. (13·23 grm.) for the silver. The date assigned is approximately the Hannibalic period; the silver are said to be found frequently in Spain. The serration of the edge of these coins seems to be produced by cutting, and closely resembles that on Roman coins.

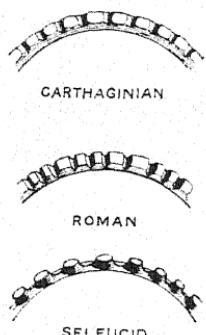


FIG. 1.

The Roman "serrate" denarius shows an edge, broken by a varying number of cuts, at irregular distances, of irregular depths, and at irregular angles, apparently produced by a sharp-cutting chisel rather than by a file. The cutting was done before striking, for (1) the metal swells over slightly at the edges of the cuts, (2) brockages of these pieces with incuse reverse occur; had the cutting been done after striking, these imperfect pieces could hardly have escaped detection. The exact method of treating the edges has not been determined: the general irregularity of the whole treatment seems to point to hand-work, but the labour involved appears almost incredibly great.

In two cases, pairs of "serrate" denarii in the British Museum, with the same obv. and rev. dies, show different serrations. Plated "serrati" are not uncommon: the British Museum has the base core of a coin already serrated, ready for plating.

Normally, the issues of a moneyer, if serrated at all, are all serrated. One or two moneyers, however, issue both serrated and ordinary denarii. Quite exceptionally we find serrated coins, where non-serrate are normal—as for example in the coinage of C. Talna (Pl. III. 2), M. Sergius Silus, L. Piso Frugi, M. Cordius Rufus; or, conversely, ordinary denarii in a series normally serrated, as for example that of M'. Aquillius, M'. f. M'. n.²

After this much of preamble we can come closer to our subject, and press home the two questions, when and why were the Roman "serrati" issued? And as the answer to the second question depends largely on the answer to the first, we will begin by drawing up a list of the "serrati" and assigning them to their approximate dates.

CLASS I. Obv.—Head of Roma, helmeted r.: behind X.

Rev.—Dioscuri riding r.: symbol, wheel. ROMA.

[Pl. III. 1.]

Grueber, B.M.C., *Rep.* II, p. 215 f., assigns this issue to Italy, c. 217–197 B.C. The weight of these denarii

² It is important to insist on the general rule; otherwise the exceptions can only confuse and mislead us. In the cases of three moneyers, L. Procilius, Cn. Egnatius Maxsumus, and C. Hosidius Geta, we have serrate and non-serrate issues side by side. Procilius probably struck at the beginning of one of the issues of serrati, and overlapped with the earlier non-serrate issues. Maxsumus may have struck his non-serrate coins for the rebel Samnites. In the case of Geta we have possibly two moneyers of the same name, whose issues lie some years apart.

appears to be heavy, prior to the reduction of 217 B.C., as is also that of the denarii with symbols: shield and trumpet, to which these are akin in style. The mint is perhaps not Rome, but the date will be a little earlier than Grueber suggests.

CLASS II. B.M.C., *Rep.* I, pp. 184 ff. Five moneyers, using the same obverse and reverse types, e.g.:

Obv.—Head of Roma, helmeted r. Moneyer's name (in genitive case).

Rev.—Warrior in biga r., brandishing spear, and holding shield and trumpet. In ex. **L. LIC. CN. DOM.**

Of the five M. Aurelius Scaurus (**Pl. III. 3**) and L. Porcius Licinus (**Pl. III. 4**) use the mark of value ***** on the obverse, L. Cosconius M. f., L. Pomponius Cn. F., and C. Malleolus C. f. (**Pl. III. 5**) the mark **X**.

CLASS III. B.M.C., *Rep.* I, pp. 200 ff.

(a) L. Aurelius Cotta.

Obv.—Bust of Vulcan, draped, in round cap, laureate, r.: behind, pincers and *****; the whole in wreath.

Rev.—Eagle standing front on thunderbolt: below, **L. COT.**: the whole in wreath. [**Pl. III. 6.**]

(b) C. Sulpicius C. f.

Obv.—Two heads of the Dei Penates, laureate, jugate, r.: in front **D. P. P.**

Rev.—Two soldiers standing to front, leaning on spears, and pointing at sow lying at their feet: in ex. **C. SVLPICI C. F.** [**Pl. III. 7.**]

(c) L. Memmius Gal.

Obv.—Head of Saturn, laureate, bearded l.: behind, harpa and ROMA.

Rev.—Venus in biga r.: above, Cupid with wreath: in ex. **L. MEMMI GAL.** [**Pl. III. 8.**]

(d) L. Scipio Asiagenus.

Obv.—Head of Jupiter, laureate, l.

Rev.—Jupiter in quadriga r., brandishing thunderbolt
and holding sceptre: in ex. **L. SCIP. ASIAC.**

[Pl. III. 9.]

All four moneyers sign with varying letters on obverse or reverse.

Classes II and III may be discussed together, as, in both cases, the dating depends largely on the evidence of finds; the table of finds in Grueber, B.M.C., *Rep.* III, pp. 2 ff., is indispensable here. Moneyers of Class II do not occur in Grueber, finds 1 to 3, but after that appear fairly regularly. Moneyers of Class III appear in finds 7, 8, 9, C. Sulpicius, however, not till find 11. Now finds 1 to 3 were, in all probability, buried about the time of the revolt of Fregellae, 125 B.C. Although the revolt was speedily suppressed, there was widespread discontent in Italy, and men may well have feared the general rising against Rome which actually took place some thirty years later. The sites of find 2, Riccia near Beneventum, and find 3, S. Giovanni di Incarico near the site of Fregellae, confirm this suggestion. Finds 1 to 3 contain issues of C. Metellus (consul 113 B.C.), M. Metellus (consul 115 B.C.), Q. Maximus (consul 116 B.C.), L. Opeimius (consul 121 B.C.), Sex. Julius Caesar (praetor 123 B.C.)—the identifications are highly probable, but not in every case certain—all issued between about 140 and 130 B.C., but no coins demonstrably later than 125 B.C. The issues of C. Serveilius and T. Veturius Barrus, which probably had some relation to the revolt of Fregellae, were present in fine condition in all three finds. Finds 1 to 3 may therefore be assigned, with some

certainty, to about 125 B.C., and we have thus an upper limit for the dating of Classes II and III. We have next to look for a lower limit, and a fortunate accident enables us to find it. The denarius of Piso and Caepio can be dated with little possibility of error to the year 100 B.C. (cf. B.M.C., *Rep.* I, pp. 170, 171, and notes). It does not occur in any one of Grueber's finds 1–10, but is found freely in finds from 11 onwards. Find 10 is not satisfactorily reported, and we shall do well not to attach too much importance to the evidence drawn from it. But to finds 1 to 9 we can now assign a trial date earlier than 100 B.C.; and, when we proceed to check it, we find our guess confirmed. The denarius of M. Cato (B.M.C., *Rep.* II, pp. 103 ff.), with its remarkable legend **ROMA** on obverse, **VICTRIX** on reverse, in all probability celebrates the final victory over the Northern invaders, 101 B.C.: it appears in no find earlier than 11. Finds 1 to 9 then are all earlier than 100 or 101 B.C. It will be seen that this conclusion is at variance with the dating adopted by Grueber; but that dating does not represent the evidence of finds, and is based on a single false deduction. L. Licinius Crassus and Cn. Domitius Ahenobarbus, whose names appear on all the "serrati" of our Class II, were censors together in 92 B.C., and Mommsen, in his *Geschichte des römischen Münzwesens*, conjectured that it was as censors that they signed these coins. Mommsen subsequently gave up this view, in face of the adverse evidence of finds: but, unfortunately, his palinode has not been duly heeded, and our chronology has been seriously deranged.³

³ If a further test is wanted, we can take the case of C. Pulcher, assigned by Grueber to 91 B.C. We know from an inscription

We have then a series of finds, Nos. 4-9 in Grueber, later than c. 125 B.C., earlier than c. 101 B.C. When we come to examine them more closely we see that finds 4 and 5 only add to finds 1 to 3 our five moneyers of Class II, M. Fourius Philus, and the denarius, with *obv. ROMA, rev.* Roma seated, she-wolf and twins. These two finds, then, cannot have been buried very many years after 125 B.C.; we may fix the year 115 B.C. as a provisional lower limit for their burial. Find 6, again, adds only two moneyers, M. Aemilius Lepidus and C. Fonteius, but finds 7-9 add quite a large number, some twenty-three in all, including our four moneyers of serrati in Class III. There are many problems involved in the exact dating of these issues, but we must confine ourselves to our own particular problem of the "serrati". Our moneyers of Class III should all belong to the end of the period of finds 7-9, for they do not occur very freely in them, and one, C. Sulpicius, does not occur at all.

We may then date Class II, c. 125 B.C. to 115 B.C., Class III, c. 106-101 B.C. What we know of the moneyers individually confirms these datings. In Class II, M. Aurelius Scaurus was consul in 108 B.C., L. Licinius Crassus and Cn. Domitius Ahenobarbus were active in public life from about 120 B.C. onwards,

that a C. Claudius Pulcher was consul in 92 B.C., praetor in 95 B.C., curule aedile in 99 B.C., and had previously been moneyer. The identification is fairly certain, and Grueber's date is seen to be some fifteen years too late. For convenience we have quoted only the finds in Grueber's list; several later finds supply similar evidence, cp. *Num. Chron.*, 1912, pp. 63 ff., 1921, pp. 179 ff., and a find made at Cordova in 1916, a manuscript description of which is in the B.M.

and reached the consulship in 95 and 96 B.C. respectively. In Class III, L. Aurelius Cotta may have been the quaestor of 89 B.C., L. Memmius the eminent orator who supported Marius against Sulla; L. Scipio Asiagenus was probably the consul of 83 B.C. A closer dating of these two classes will be attempted later.

CLASS IV. B.M.C., *Rep.* I, pp. 343 ff.

(a) C. Mamilius Limetanus.

Obl.—Bust of Mercury, wearing petasus, draped r.

Rev.—Ulysses and dog Argus: **C. MAMIL.
LIMETAN.**

Running letters on obv.

[**Pl. III. 10.**]

(b) Q. Antonius Balbus.

Obl.—Head of Jupiter, laureate, r.: behind, **S. C.**

Rev.—Victory in quadriga r.: in ex. **Q. ANTO.
BALB. PR.**

Running letters on obv. and rev.

[**Pl. III. 11.**]

(c) A. Postumius A. f. S. n. Albinus.

(1) *Obl.*—Bust of Diana, draped r.: quiver and bow on shoulder: above, bucranium.

Rev.—Togate figure standing on hill, about to sacrifice bull at altar: **A. POST. A. F. S. N. ALBIN.**

[**Pl. III. 12.**]

and (2) *Obl.*—Bust of Hispania, veiled, with loose hair, r.: **HISPAN.**

Rev.—Togate figure standing l. between fasces and standard surmounted by eagle, extending r. hand towards the latter: **A. POST. A. F. S. N.
ALBIN.**

[**Pl. III. 13.**]

(d) C. Marius C. f. Capito.

Obl.—Bust of Ceres, draped, in corn-wreath, r.: **C. MARI. C. F. CAPIT.**

Rev.—Man ploughing l. with yoke of oxen.

Running numbers on obv. and rev. [**Pl. III. 14.**]

(e) C. Poblicius Q. f.

Obv.—Bust of Roma, draped, in helmet ornamented with two feathers, r. : **ROMA**.

Rev.—Hercules strangling lion: **C. POBLICI. Q. F.**

Running letters on obv. and rev. [Pl. III. 15.]

(f) C. Naevius Balbus.

Obv.—Head of Juno, diademed r. : **S. C.**

Rev.—Victory in triga r. : **C. NAE. BALB.**

Running letters on obv. or rev., or running number on rev. [Pl. III. 16.]

(g) L. Papius.

Obv.—Head of Juno Sospita, wearing goat-skin under chin, r.

Rev.—Gryphon galloping r. : **L. PAPI.**

Running symbol on obv. and rev. [Pl. IV. 1.]

(h) Ti. Claudius Ti. f. Ap. n.

Obv.—Bust of Diana, draped, wearing stephane, r. : quiver and bow on shoulder: **S. C.**

Rev.—Victory in biga r. : **TI. CLAVD. TI. F. AP. N.**

Running number on rev., sometimes with **A.** prefixed. [Pl. IV. 2.]

(i) L. Volteius L. f. Strabo.

Obv.—Head of Jupiter, laureate, r.

Rev.—Europa on bull galloping l. : behind bull, thunderbolt; below, vine-leaf.

Running letters on obv. [Pl. IV. 3.]

(j) L. Procilius f.

Obv.—Head of Juno Sospita, wearing goat-skin under chin, r. : **S.C.**

Rev.—Juno Sospita, with spear and shield, in biga r. : under horses, serpent erect : **L. PROCILI. F.**

[Pl. IV. 4.]

He also strikes a non-serrate denarius:

Obv.—Head of Jupiter, r. : **S. C.**

Rev.—Juno Sospita standing r., brandishing spear, and holding shield : **L. PROCILI. F.**

[Pl. IV. 5.]

(k) C. Egnatius Maxsumus.

Obv.—Bust of Venus draped, r.: on shoulders, Cupid :
MAXSVMVS.

Rev.—Libertas crowned by Victory in biga l.: behind
her, pileus : **C. EGNATIVS CN. F. CN. N.**
[Pl. IV. 6.]

He also strikes non-serrate denarii with

(1) *Obv.*—Bust of Cupid r.: **MAXSVMVS.**

Rev.—Figures of Jupiter and Libertas in distyle
temple: **C. EGNATIVS CN. F. CN. N.**
[Pl. IV. 7.]

and (2) *Obv.*—Bust of Libertas, draped r.: behind, pileus:
MAXSVMVS.

Rev.—Two female figures standing facing; the one
on l. is helmeted, leans on spear, and places foot
on head of wolf: the one on r. is diademmed,
holds sceptre, and is caressed by Cupid: l. and
r., oar upright: **C. EGNATIVS CN. F. CN. N.**
[Pl. IV. 8.]

(l) Q. Crepereius M.f. Rocvs.

Obv.—Bust of Amphitrite, draped r.

Rev.—Neptune in chariot drawn by two hippocamps
r.: **Q. CREPEREI. ROCVS** (or **Q. CREPER.**
M. F. ROCVS).

Running letter on obv. and rev.: running symbol
on obv. [Pl. IV. 9.]

None of the moneyers of this class occurs in finds 11 to 14, which were buried in the years immediately following the Social War, c. 89–87 B.C. But coins of Limetanus and Balbus appear in find 15 together with coins of C. Annus, struck in Spain c. 82–80 B.C.; while the other moneyers appear either in finds 16–18, buried c. 78–77 B.C., or in finds 19–24, buried c. 73–71 B.C. We have then as outside limits for the class the years 87 and 71 B.C. respectively.

CLASS V. B.M.C., *Rep.* I, pp. 415 ff.

(a) Kalenus-Cordius.

Obv.—Jugate heads of Honos, laureate, and Virtus, helmeted, r.

HO. VIRT., KALENI.

Rev.—Roma holding spear and resting r. foot on globe, clasping hand of Italia, holding cornucopiae:

RO. ITAL., CORDI. [Pl. IV. 10.]

(b) M'. Aquillius M'. f. M'. n.

Obv.—Bust of Virtus, draped, in helmet ornamented with feather, r. : **VIRTVS : III VIR.**

Rev.—M'. Aquillius standing l., raising prostrate figure of Sicilia: **SICIL. : M'. AQVIL. M'. F. M'. N.** [Pl. IV. 11.]

(c) T. Vettius Sabinus.

Obv.—Head of Tatius, bearded r.: **TA., S. C., SABINVS.**

Rev.—Togate figure in biga l., holding sceptre: behind, ear of corn: **IVDEX, T. VETTIUS.** [Pl. IV. 12.]

(d) C. Hosidius C. f. Geta.

Obv.—Bust of Diana, draped, r.: on her shoulder, bow and quiver: **GETA III VIR.**

Rev.—Wild boar pierced by spear, attacked by dog: **C. HOSIDI. C. F.** [Pl. IV. 13.]

Sometimes, in distinct style, not serrated.

(e) L. Roscius Fabatus.

Obv.—Head of Juno Sospita, with goat-skin tied under neck, r.: **L. ROSCI.**

Rev.—Female figure standing r., feeding serpent: **FABATI.**

Running symbol on obv. and rev. [Pl. IV. 14.]

Coins of this class make their first appearance in finds 25 to 29, all of which were buried early in the

Civil War between Caesar and Pompey. The presence of a single specimen of the "Kaleni-Cordi" denarius in find 19 is probably, as Grueber suggests, accidental. Most of the coins of this class show a remarkable resemblance in style to the denarii of Paullus Lepidus and Libo (*Pl. IV. 15*) (*B.M.C., Rep. I*, pp. 418 ff.), which must have been struck c. 55 B.C., or later. Paullus Lepidus was probably the same man as the consul of 34 B.C., and his obverse type "Concordia" may refer to the Conference of Caesar, Pompey, and Crassus at Luca. Coming to the moneymen themselves, we find a Q. Fufius Calenus praetor in 59 B.C. and legate of Caesar in Gaul 51 B.C., a T. Vettius praetor in 59 B.C., an L. Roscius Fabatus legate of Caesar in Gaul in 54 B.C. and praetor 49 B.C. The class belongs then to the period c. 71 B.C. to 49 B.C., but probably to its later years, as we shall attempt to show later.

Looking back on the ground we have traversed, we see that apart from one isolated issue in the third century B.C., the Roman serrati fall within the years 125 and 49 B.C., and that they occur not continuously, nor yet quite sporadically, but in four main groups, separated by intervals of years from one another: we may add here the observation that they differ widely among themselves in style and are not to be assigned to any one special mint. What purpose, then, can the serration of the edge of the denarius have served? Many explanations have been offered, some more or less credible, some not. It cannot have been a mere fashion of the mint, nor can it have been intended to differentiate small silver from small copper coins, or to reduce over-heavy pieces to normal weight. It might, however, have been designed to show the interior of

the coin, and thus furnish a guarantee that the coin was not plated: the occurrence of plated "serrati" does not in the least discredit this explanation.⁴ This suggestion is at least a reasonable one: we will apply it to our dated series of "serrati" and discover whether on a closer examination it gains or loses in attractiveness. We will also bear in mind the famous passage of Tacitus (*Germania*, 5), in which he tells us that the Germans "pecuniam probant veterem et diu notam serratos bigatosque", and not forget that, although the Roman State at various times countenanced the official plating of denarii, there was such a thing as an opposition party in Rome.

CLASS I. This solitary issue of serrati eludes our exact knowledge: we can only hazard a guess at the occasion of its issue. Many symbols on coins of the period appear to refer to the moneyer—the ass's head, for example, to a Silanus, the staff to a Scipio; others, however, such as the Victory or the ear of corn are more probably to be referred to special issues. The wheel appears to belong to this second class and suggests some reference to road-building, while the oblong shield and carnyx on denarii of similar fabric appear to have a Gallic reference. We might tentatively assign this second issue to the period of the battle of Telamon, 225 B.C.,⁵ the wheel denarii to the building of the Via Flaminia from Rome to Ariminum

⁴ It would, of course, only show that the forger was too clever to be controlled.

⁵ This denarius was restored by Trajan, with the addition of the name, DECIVS MVS, on obv. It is quite certain, however, that the coin was not struck by or for the hero of Sentinum, 295 B.C. Trajan's master of the mint can have had no exact knowledge of the real occasion of these early issues.

in 220 B.C. Official plating of denarii is first reported after the battle of Trasimene, but may have been thought of earlier. We shall find good reason at a later date for thinking that the democratic party, in opposition to the senate, contested this policy. The issue of serrati may well be a mark of such opposition; and the period to which we are assigning these denarii was one in which the democrats were particularly active. Further, these denarii were probably intended to circulate in the North of Italy among the Gallic tribes. The preference of the Germans for the old coins, the "serrati bigatique" which Tacitus mentions in the passage quoted above, was hardly capricious: they must have had more regard to the quality of the metal than to the types. The "bigati" of Tacitus, then, will denote the older denarii of the period before plating became common,⁶ the "serrati" mainly those later issues which were, in theory at least, free from the admixture of plated denarii. We are fairly safe in assuming that the taste of the Germans was shared by the natives of the West generally; and so, in this particular case, we may attribute the serration of these denarii to the influence of the democrats at Rome on

⁶ It is a curious thing that the famous Dioscuri reverse should be left out of account: Livy, however, uses "bigati" as a regular term for current denarii. Ullman, in the *Philological Quarterly*, Iowa, 1922, pp. 311 ff., has an interesting discussion of the passage in Tacitus. Willers, in *N.Z.*, 1899, pp. 329 ff., described a find of Roman Republican denarii at Niederlangen, including 41 serrati in a total of 61 coins. Regling, in *Z.f.N.*, 1912, p. 217 and notes, also gives some particulars. It can hardly be said that finds have yet fully borne out the statement of Tacitus; but this may well be due to the relatively small number and the imperfect descriptions given of them. The evidence of Tacitus must certainly rank very high.

the provision of coins likely to be accepted by the Gauls of Cisalpine Gaul. The serration of the Carthaginian electrum and silver may be attributed to a similar cause. Carthaginian coins were often of bad metal, and the Spaniards and Gauls may well have hesitated about accepting them. The serration may be interpreted as an attempt to overcome this reluctance, by offering an apparent guarantee of the honesty of the coinage.

CLASS II. We find ourselves here on much firmer ground. The figure on the reverse, whether or no he be Bituitus, king of the Arverni, himself,⁷ certainly has a Gallic reference, and we have already, on the evidence of finds, assigned this class to the years 125–115 B.C., within which fall the great wars against the Arverni and the Allobroges and the crowning Roman success, the founding of Narbo Martius, in 118 B.C. When we discover that L. Licinius Crassus proposed the founding of the colony and was himself appointed a commissioner, we know that we have reached the end of our quest. Cn. Domitius Ahenobarbus will have been colleague of L. Licinius Crassus as commissioner—commissions of two are quite in order; their signature, appearing on the whole issue, marks it as a special coinage in honour of the new colony. The two moneyers who use the mark of value, *, normal at the time, were probably "quaestores urbani",⁸ and

⁷ Kubitschek, *N.Z.*, 1914, pp. 223 ff., will not admit the possibility: his arguments are perhaps based too much on prejudice, and he has not detected the occasion of the issue—rather an important point in this context.

⁸ M. Aurelius Scaurus was probably the consul of 108 B.C.; in 118 B.C., then, he might well have been quaestor, but hardly moneyer.

struck for Rome and Italy ; the remaining three, who use the old mark X, were probably “III Viri a. a. a. f. f.” and struck for circulation in Gaul. It was probably soon after 168 B.C. that the mark * came into use : after that date X only occurs on coins destined for circulation in the West or North-West, being retained to please the natives who disliked changes, the reason for which they were unable to appreciate.⁹

Finally, this issue of serrati is definitely the act of the democratic party, which, in carrying the foundation of Narbo, showed its first sign of rallying after the disaster of C. Gracchus. And C. Gracchus had pointed the way to an alliance between the democratic party and the great business class, the “equites”, who would naturally prefer honest money as being good for trade. There may have been a further reason for the issue of serrati at this particular juncture. Pliny (*Nat. Hist.*, xxxiii. 3. 13) tells us that “Livius Drusus in his tribunate mixed an eighth part of copper with the silver”. This statement, which has usually been applied to the younger Drusus, the tribune of 91 B.C., might equally well refer to his father, the tribune of 122 B.C., and is better in keeping there. The proposal will have been one of Drusus’s anti-Gracchan measures¹⁰ and will have been answered a few years later by this issue of “serrati”.

CLASS III. This class has already been roughly dated, c. 106 to 101 B.C. As far as the evidence of

⁹ It is impossible, in a short note, to give all the evidence for this view : it is based mainly on the assumption, surely justifiable, that the Roman mint did not at one and the same time use two marks of value indiscriminately.

¹⁰ Drusus, in keeping with his general policy, may well have represented it as a popular measure—an economy, perhaps.

finds goes, it might just conceivably be a few years earlier; but, with the experience of Class II behind us, we may confidently attribute it to the period of Marius's ascendancy in Rome 104-100 B.C., when, to meet the threat of Cimbrian invasion, he was re-elected consul year by year. Under Marius the democrat it is only natural to find the democratic preference for the "serrati" re-emerging—the more so as the coinage of these years was intended largely to circulate in Gaul or North Italy. The mint of the coins was, however, probably Rome. The dating is quite consistent with the use of letters as mint-marks, which had come in a few years earlier, and also with the types, in so far as they bear any definite allusions at all. The reverse of C. Sulpicius, Two soldiers swearing fidelity over the body of a pig, aptly symbolizes the union of Rome and Italy against the invaders. A lower limit for the coinage is supplied by the *débâcle* of the democrats under Saturninus and Glaucia in 100 B.C.

CLASS IV. This class, which we have dated to the years 86-71 B.C., is the largest and most complicated of all: yet, despite its difficulty, it furnishes most satisfactory evidence as to the true meaning of the serrated issues. During this period—which embraces the major part of the civil wars between the Marians and the Sullans—serrate and non-serrate coins occur in more or less parallel series. The question naturally rises in the mind, whether the two kinds of denarius are connected with the two factions in the State. And, when we put it to the test, we soon find a surprisingly clear and satisfactory answer. The serrated issues are Marian, the non-serrated Sullan. When the Marians

had seized Rome (87 B.C.) it was found that the currency was in hopeless confusion. No one knew what he possessed. To remedy this confusion the praetor M. Marius Gratidianus (84 B.C.) arranged means by which good denarii could be distinguished from bad.¹¹ For this public service he received almost divine honours at the time, but paid for it later with his life under the rule of Sulla, who restored the currency of plated coins.¹²

Can there be any serious doubt that the earlier serrati of this class represent the good money put on the market by the Marian party? And, consequently, that the serration was definitely intended as an evidence of good alloy?¹³ The evidence of this class of coins is in itself strong: added to the evidence of Classes II and III it is overwhelming. And we can put it to further tests. The Marian party was routed and driven from Rome and Italy by Sulla in 82 B.C.; it maintained a precarious existence in Africa, Sicily, Sardinia, with the pirates, and, above all, with Sertorius in Spain till about 73 B.C. If our interpretation is right, then the later serrati of this class must represent the coinage of the Marians in their last struggles in the provinces. In particular we shall find here the missing coinage of Sertorius. Turning

¹¹ Pliny, *Nat. Hist.*, xxxiii, 9. 46 (132): "igitur ars facta probare denarios, tam iucunda plebei lege, ut Mario Gratidiano vicatim tota statuas dicaverit."

¹² Cp. B.M.C., *Rep.* I, p. xlvi.

¹³ Why were the non-serrate denarii in circulation not tested by serration? There is no doubt an answer to the question, but it is still to be discovered. One explanation might be that denarii, submitted to official test, were first serrated and then re-struck.

to the coins, we find A. Postumius Albinus using as obverse types Diana, the patron-goddess of Sertorius, and Hispania, as reverse types, a sacrifice scene and a figure standing between eagle and fasces: how better could he refer to the establishment of civil and military government in Spain by Sertorius?¹⁴ Q. Crepereius Rocus uses as obverse bust of Amphitrite, as reverse Neptune drawn by hippocamps, as symbols various sea-creatures: could there be a more explicit reference on a Roman denarius to the sea?—in this case, as history tells us, to the pirates. Other references undoubtedly occur, but cannot yet be read.¹⁵ The little that we know of the history of the moneyers points in the same direction. Q. Antonius Balbus was appointed praetor of Sardinia by the Marians in 82 b.c. C. Marius Capito, from his name, may have been a relation of the great Marius. Cn. Egnatius Maxsumus appears to have been a Samnite, hence almost certainly a Marian. The very fact that the majority do not reappear in history is eloquent: comparatively few of the Marian exiles lived to see a political future at Rome.

The exact classification of these issues, by dates and mints, is not our present task. The earliest issues, those of C. Mamilius Limetanus, Q. Antonius Balbus, L. Volteius Strabo, and L. Procilius (?) should belong

¹⁴ It is, of course, quite inadmissible to rule out contemporary allusions on Roman coins as not being in the tradition of the Roman mint; that tradition, after all, is only known to us from a number of special cases, and these cases must be taken on their merits.

¹⁵ E.g. the emphasis laid on the cult of Juno Sospita, who was worshipped chiefly at Lanuvium, must have some special connexion with the "serrati"; but exactly what, is uncertain. Juno Sospita delivers men from perils, particularly the perils of war: she may have been adopted as a special patroness by the Marians in exile.

to Rome, c. 84–82 B.C.¹⁶ The issues of A. Postumius Albinus, C. Naevius Balbus, and Q. Crepereius Rocus will be Spanish, c. 79 to 77 B.C. The coins of C. Marius Capito, C. Poblicius, and Ti. Claudius, perhaps also L. Papius, seem to form one group—perhaps Spanish, but of a second mint—and fall to the years 79–75 or 74 B.C. C. Egnatius Maxsumus appears to stand rather by himself. The main feature of his types are the references to Venus and Cupid, and to Libertas. The woman who stands beside Venus between upright oars, setting her foot on the head of a wolf, can hardly be Roma, but might perhaps be Samnium. We should then have to regard Maxsumus as a moneyer, who struck for the Samnites during the later years of their struggle with Rome, and then, joining the Marians, issued a small set of serrati. His non-serrated coins show a strong resemblance of style to those of L. Farsuleius Mensor and L. Plaetorius. These few notes on mints and dates perhaps raise more problems than they solve, but they may indicate the direction in which further light is to be sought.

CLASS V. This class has been dated within the period 71 to 59 B.C., but we have still to show reason for placing it late rather than early in that period, especially as the careers of some of the moneyers appear rather to point in the other direction. Our best method will be to hazard a guess and then test its correctness. The coinage of Julius Caesar as governor of Gaul has not yet been identified, beyond one late issue with the elephant trampling a dragon as

¹⁶ C. Mamilius Limetanus also struck, as colleague of L. Censorinus and P. Crepusius, non-serrate denarii. L. Procilius also strikes both kinds of denarius, but his occurrence in finds is later.

obverse:¹⁷ *a priori* there is good reason for thinking that it exists. Such a coinage would be largely intended for circulation in Gaul itself and might well be serrate, in order to reassure the natives as to its metal. And Caesar was from his earliest days a devoted Marian, and might well choose to revive a favourite policy of the faction. This class of serrati, then, would very well fill the gap. It would be issued by legates of Caesar—and this will explain the careers of the moneyers: some hold their legateships early, some late, after holding offices as important as the praetorship. It is noteworthy that the earliest issues of Caesar after his occupation of Rome in 49 B.C. often show signs of imperfect serration, as though the habit could not be instantly abandoned. It is perhaps a slight confirmation of this view that several types of the series are copied by moneyers of Augustus. The mints are uncertain, but two, at least, were at work. To one¹⁸ belong the serrate issues of M'. Aquillius, T. Vettius Sabinus, C. Hosidius Geta, and probably Kalenus-Cordius: to the other the serrate issues of L. Roscius Fabatus and the non-serrate of C. Hosidius Geta.¹⁹

It has been necessary in this paper, in attempting to break new ground, to venture on some conjectures, which need further testing. Several conclusions, however, have been reached, which appear to rest on a thoroughly reliable basis:

¹⁷ Probably struck in Cisalpine Gaul, for circulation in Italy, as it is not serrated.

¹⁸ Perhaps Luca in Etruria, c. 55 B.C.

¹⁹ Perhaps Rome itself, c. 59-58 B.C. It is just possible that this issue of Geta is some years earlier, and belongs to a father of the moneyer of the "serrati".

(1) Whereas the policy of issuing plated coins was on several occasions adopted by the Senatorial Government of Rome, that of maintaining the good alloy of the silver was traditional with the democratic party, particularly in the later Republic under the successors of C. Gracchus.

(2) The serration of the denarius formed a definite part of this policy, and was intended to serve the one purpose of showing at a glance the metal of which the coin was composed.

(3) The tribes of the North and West had a strong preference for good silver and for this reason welcomed the "serrati". The "serrati" were mainly, but probably not entirely, struck for circulation among those tribes.

H. MATTINGLY.

IV.

THE LEGIONARY COINS OF VICTORINUS, CARAUSIUS, AND ALLECTUS.

[PLATE V.]

It is five years since the Society was good enough to listen to a paper on the Legionary Coins of Septimius Severus and Gallienus, read on January 16, 1918. I promised on that occasion to follow it up with another on the similar issues of later emperors, and that promise, having at last a few days to spare, I redeem to-day.

Those of you who take an interest in Roman Numismatics will perhaps remember that I demonstrated in my paper of 1918 that the legions commemorated by Severus and Gallienus were only a limited, if an important, proportion of the total body of the Roman regular army existing in A.D. 193 and A.D. 258 respectively. Severus struck coins in honour of all the legions (with the exception of one, X Gemina) which formed the armies of the Rhine and the Danube. He did not so honour either the legions of Spain and Africa, which were under his own authority, nor those of Britain, which were adhering to his colleague Clodius Albinus, nor those of the East, which belonged to his rival Pescennius Niger. And after investigation we discovered that the same phenomenon was evident in the legionary coinage of Gallienus: like Severus

he commemorated only the corps on the Rhine and Danube—not those of Spain, Britain, Africa, or Asia. The only addition which his series furnishes to that of his predecessor was a coin commemorating one new legion, II Parthica, which Severus himself had raised, and had placed close to Rome, on the Alban Hills, obviously as a check on the Praetorian Guards, hitherto the only armed force in the capital, who had shown themselves far too addicted to the tiresome sport of emperor-slaying and emperor-making in the year before Severus's own accession. Presumably II Parthica had been taking part along with Gallienus in some of his German wars of 254–258, and so earned the same notice as the regular legions of the northern frontier.

Gallienus stopped coining legionary money in 258, obviously because several of the corps, whose fidelity he had been commemorating, joined in the revolt of the usurper Postumus, which led to the murder of the emperor's heir Saloninus, and the establishment of that "Imperium Galliarum", or separate Gallic state, which lasted from 258 till the abdication of Tetricus in A.D. 273, a period of fifteen years, during which the emperor on the Palatine was not acknowledged by the provinces of Gaul, Spain, and Britain, who looked on the counter-emperor, who lived at Cologne, Trèves, or Lyons, as their legitimate ruler.

Now Postumus (A.D. 258–267), the first and the most noteworthy of the five successive Gallic emperors, whose names cover the fifteen years of the "Imperium Galliarum", struck no coins commemorating the individual legions which had joined in his rebellion. At the most, his billon issues, with **FIDES MILITVM**

and **FIDES EXERCITVS**, allude in a general way to the supposed fidelity of his troops. They ended, as you know, by assassinating him, when he set himself to chastise the turbulent army which had sacked, contrary to his orders, the revolted city of Moguntiacum (Mayence). Postumus issued some very interesting coins, including that curious and well-designed series with the Labours of Hercules, on which I had occasion to dwell when reading another paper to our Society ; but none of them commemorated legions.

Victorinus, who is said to have been adopted as Postumus's colleague in 265, and may pass as his legitimate successor, reigned alone during part of the years 267, 268, 269. He was the third Roman ruler who, like Severus and Gallienus, made a large issue of legionary coins, and (we may add) an issue which presents problems and puzzles such as the series of his predecessors do not offer. Unlike Severus, who struck mainly silver denarii, and Gallienus, who issued only debased billon "Antoniniani" (if we may still be permitted to use that apparently unauthorized name), Victorinus devoted himself to striking legionary coins in gold alone, though that metal was scarce at the time, and (as we all know) *aurei* of the period from Philip to Aurelian are coins which the collector finds it very hard to procure. These legionary gold pieces of Victorinus are all rare, but there are quite a number of types, and they are exceedingly well-executed pieces for the art of that day. The same is the case with the gold of Postumus and Tetricus; of all the Gallic emperors the *aurei* are handsome to a degree, which makes us marvel even more than we should otherwise at the extremely careless and ugly character of their

billon and copper small change, which are as disreputable as they are common.

Now Victorinus commemorated in all twelve legions on this exceptional gold coinage. They were I Minervia, II Trajana (Pl. V. 1), III Gallica, IV Flavia Felix (Pl. V. 2), V Macedonica, X Fretensis (Pl. V. 3), X Gemina (Pl. V. 4), XIII (Pl. V. 5) and XIV also surnamed Gemina, XX Valeria Victrix (Pl. V. 6), XXII Primigenia, and XXX Ulpia Victrix (Pl. V. 7). In this list the puzzle emerges. Both Severus and Gallienus had commemorated all the legions of two definite armies, those of the Rhine and the Danube, and struck nothing recalling the outlying armies of Britain, Spain, Africa, or the East.

Victorinus was in possession of Gaul, Britain, and Spain, and we should therefore have expected to find that the legions named on his coins all belonged to the armies of one of these three regions. He ought to have had no business with the legions of the Danube or the East, lying in lands where he had never been acknowledged as emperor. But when we investigate the list of the twelve commemorated legions, we find to our surprise that while XX Valeria Victrix was (as always) at Chester in Britain, and I Minervia and XXX Ulpia Victrix on the lower Rhine, and XXII Primigenia on the Upper Rhine, the remaining eight legions belong to frontiers where Victorinus had no hold. X and XIV Gemina were regularly quartered in Pannonia, IV Flavia Felix in Moesia, V Macedonica and XIII Gemina on the middle Danube, in what was once part of Moesia, but was afterwards called Dacia Ripensis. But this is not all: X Fretensis always belonged to Judaea, III Gallica to Phoenicia, and II

Trajana to the equally distant Egypt. What reason has Victorinus to celebrate the existence of legions lying in Bulgaria, or still further off, in Syria and Egypt?

Two hypotheses only, as far as I can see, suggest themselves as an explanation for this extraordinary act on the part of Victorinus. The first is that the issue of these coins in the most valuable metal was simply propaganda, directed to influence first the soldiery and then the whole Roman world. The political situation must be explained. In the summer of 267 the Emperor Gallienus had gone off to the Balkan peninsula, to resist some new raids across the Danube of the Goths, who had been making desperate trouble in that region ever since the disastrous defeat and death of Trajan Decius at Forum Trebonii. He had assigned the defence of Northern Italy, and the mountain lands north of it, in case the Gallic usurper should move, to a general called Aureolus. In the autumn, while Gallienus was busy with the Goths, Aureolus tempted the legions of Rhaetia and Noricum into rebellion, proclaimed himself emperor, and intending to make a dash at Rome, seized Milan. Apparently the troops at his disposition must have included the regular garrison of the Alpine lands, of which the most important part was the legions II and III Italica, for neither of which, be it noted, did Victorinus strike commemorative money. Gallienus came in haste with an army from the Danube, defeated Aureolus on the Adda, and shut him up in Milan, where he defended himself for some time. Now civil war being on foot in Italy itself—which was rare—though remote provinces had been very rebellious for the last ten years, as the list of the “Thirty Tyrants”

shows—Victorinus may have desired to corrupt the army of Gallienus, which (as its subsequent conduct showed) was very mutinous. Of the corps for which Victorinus struck gold money, no less than five may have been at this moment in North Italy under the emperor's command—the two Pannonian legions X and XIV Gemina, the Dacian legions V Macedonica and XIII Gemina, and the Moesian legion IV Flavia Felix. Propaganda could very easily be used on all of these. But what of the three remaining units, two of which belonged to Syria, and the other to Egypt? The only feasible explanation would be that Victorinus was making a bid for the supremacy of the whole empire, and that this splendid (if limited) issue of *aurei* was an appeal to the whole Roman military world, and not merely to the Danube legions now present in Italy. Those of the far East, also, were invited to recognize as the sole ruler of the empire the prince who was already in possession of its most important fraction, the three great provinces of Spain, Gaul, and Britain. Gallienus perished in the early spring of 268, by the weapons of conspirators, while besieging Aureolus in Milan. It seems impossible to be sure of the exact dates of the issue of the legionary *aurei*. Victorinus may have been bidding for the empire either against Gallienus and Aureolus, or against Gallienus's general, Claudius Gothicus, who proclaimed himself emperor on March 24. It is impossible to say whether the coins belong to 267, 268, or even to 269, the year in which Victorinus himself was murdered, or whether the mint of Lyons, or the mint of Vienna, or what ever other South Gaulish *atelier* issued these beautiful and interesting pieces, may not have

struck them when the emperor, whose portrait it bears, was already dead by the hand of the assassin at Cologne. On this reading of the cause of the issue of this splendid gold series, we may call it entirely propagandic, an advertisement to the armies of the whole empire that the ruler of Gaul had gold for all who might be ready to join him in a time of chaos, abandoning either the cause of Gallienus, or that of the successor—Claudius Gothicus,—whom the legions in front of Milan had acclaimed as his heir.

The other hypothesis which is set forth to explain the existence of these coins is a more complicated one, but quite worthy of consideration. It is to the effect that Victorinus was not wasting gold on mere propaganda, but was rewarding actual adhesion to his own cause of some fractions of Gallienus's army. This view has been set forth with much ingenuity by our fellow member M. Adrien Blanchet in volume XXVII of the *Musée Belge*. He suggests that certain Dacian and Pannonian legions, or parts of them, had neither followed Aureolus into revolt, nor remained faithful to Gallienus, but had passed over to the Gallic emperor. It is quite true that detachments of legions were often sent out for distant service, while the main *cadre* and the Eagle remained at home, in the usual garrison of the corps. These *vexillationes* or detached cohorts occur frequently in the story of the wars of Otho, Vitellius and Vespasian told by Tacitus. And that the custom never died out is sufficiently proved by the billeting details of corps given in the *Notitia Dignitatum*, a work a century later than Victorinus, where many of the old legions are found cantoned in three or four separate sections on spots quite remote from each other. Con-

ceivably these “vexillations” of V Macedonica or X Gemina may have been far from head-quarters, and have joined the Gallic emperor. In this case the *aurei* would be actual pay given to deserters, not propaganda. But this view, quite a simple and reasonable one, fails to commend itself to me for two reasons. The first and less cogent is that it is odd that Victorinus, rewarding his new adherents, should simultaneously have struck similar money for corps like the Chester legion XX Valeria Victrix, or the Lower Rhine legion XXX Ulpia, which had been under his authority for the last three or four years, ever since he became the colleague of Postumus in 265, but not for the whole of his old army. Some of his oldest adherents are neglected, such as the two other British legions, and VIII Augusta on the Upper Rhine. This goes for not over much as an objection—conceivably such coins might have been struck, but in small numbers, so that no specimen has chanced to survive—those which we actually possess are all rare, and some of them unique.

But what I regard as a fatal objection against the theory that Victorinus had under his hand, serving in his army, at least a part of each legion which he commemorates, is that we find coins of the Syrian III legion Gallica, the Judaean legion X Fretensis and the Egyptian legion II Trajana. Of all the legions in the Roman world these three were precisely the most remote from Gaul, the head-quarters of one being at Berytus, of those of the second at Aelia—Jerusalem—those of the last in Upper Egypt. On the face of things if “vexillations” were being borrowed for a war on the Danube, these would be about the last legions which

could rationally be asked to supply them. But this is not all: it was at the moment politically impossible to call on these corps for help, since a serious rebellion was raging in Syria, and every Eastern legionary was wanted at home. In 266 the celebrated Palmyrene prince Odenathus, who had been friendly to Gallienus, and had fought the Persians in his behalf, was assassinated. And his widow and successor Zenobia had adopted a different policy, she had gone into opposition to Gallienus, had defeated his general Heraclian, the governer of Syria, and was busily engaged in conquering the whole Levant. In 270 she got hold even of Egypt, where she struck the well-known coins commemorating herself and her son Vabalathus—Athenodorus as Roman rulers. In 267 therefore it is absolutely impossible that a Syrian legion like X Fretensis could have spared a man for the Balkan army of Gallienus. And this is equally true of the Egyptian legion II Trajana, for the garrison of Egypt was the only possible reserve for the Syrian army.

But if it is clear that Victorinus could not in 267 have had any Judaean or Egyptian "vexillations" in his actual army, he *must* have been striking "propaganda money" alone, when he issued *aurei* with the title and the regimental bull of the Xth, and the title and the Hercules-figure which was the badge of II Trajana.

I conclude therefore that we must look upon the whole legionary series of Victorinus's *aurei* as simply propaganda-money, and not as certifying the existence in his army of any part of any of the legions which are commemorated. The only corps in the list which we *know* to have been in his power were XX Valeria

Victrix at Chester, XXX Ulpia and I Minervia at Cologne and Xanten, and XXII Primigenia at Moguntiacum (Mayence). If the coins of the Egyptian and Judaean legions are mere "propaganda" and advertisement, so too most probably are those of the five Danube legions already cited above.

Before going on to the coinage of Carausius, I have a few more remarks to make concerning the types of the *aurei* of Victorinus. Every legion, as we know, had a regimental badge, which might be either (as was most usual) an animal—lion, bull, Capricorn, wolf, ram—or a bird, e. g. eagle or stork—or the image of the god to whom the legion was dedicated, like the figure of Minerva on that of I Minervia, the Neptune on that of XI Claudia, or the Hercules on that of II Trajana. These legionary badges not only occur on the coinage, but on gravestones of soldiers and officers belonging to each corps, on the buildings which they erected, and even on the tiles which went to make those buildings. For example, you cannot scratch about at Chester without running repeatedly upon the wild boar which was the crest of XX Valeria. The regular badges of most of the legions are perfectly well known to us. But, oddly enough, the coin-engravers of Victorinus at the Lyons mint do not seem to have been thoroughly well up in their regimental heraldry. On some of the *aurei* the badges are quite normal, and exactly what we should have expected from other evidence, e. g. the boar for XX Valeria, just mentioned above, the Capricorn for XIV Gemina, and the Hercules for II Trajana. But in certain others there is a variant on the usual type, caused by inserting the figure of the tutelary god of the legion along with

its animal badge. For example, the badge of XXII Primigenia was a Capricorn, but Victorinus gives it a figure of Hercules standing by a Capricorn. The Moesian legion IV Flavia Felix bore the lion, but Victorinus gives it two lions "counter-regardant", and the head of a divinity with an elephant-skin head-dress—possibly Africa—above them. The Pannonian corps X Gemina had a bull as its crest, but Victorinus gives it instead the "Gemini"—Castor and Pollux—a very reasonable type and probably the legion may have been dedicated to the "Gemini" by a solemn pun. But the usual lion does not appear. These are reasonable and comprehensible variations: but some of the types of Victorinus seem simply incorrect. For example, XXX Ulpia on the Lower Rhine always had Neptune as its badge, and he is shown on their legionary coins both under Gallienus and under Carausius. But Victorinus gives the thirtieth a figure of Jupiter presiding over a small Capricorn. This is inexplicable, and looks like a mere blunder: the engraver may have taken a roughly drawn Neptune for a Jove on his model. The Dacian legion V Macedonica gives another puzzle: its badge was an eagle, or on the coins of Gallienus a Victory crowning an eagle. But Victorinus gives it an eagle facing a bull—an animal with which V Macedonica had nothing to do, though its neighbour legion at Viminacium, VII Claudia, owned one. M. Blanchet suggests that when some fraction of V Macedonica went over to Victorinus in 267, it was recruited up from other elements and given a double crest. But, as I said above, I do not believe that we can have any certainty or probability that these Dacian legions were ever under Victorinus's

hand. So what the unnecessary bull may denote remains a puzzle. The problem of I Minervia is a simpler one: on the coins of Gallienus it shows a statue of its tutelary goddess: on those of Carausius, a ram, which along with the owl was a creature sacred to Minerva. Herodotus has a curious story in his account of Egypt concerning a ram-headed Pallas which may be quoted as a side-light. But Victorinus on the coins of this legion has not a ram simply, but a Victory crowning a ram. We should rather have expected a Minerva than a Victory as the accompanying figure, but if the First Legion had gained some notable military success of late, the Victory becomes comprehensible.

And now for Carausius, the character of whose legionary coins—two varieties in silver and eight in bronze—are best understood by a careful comparison with those of Victorinus, there being many analogies between them. Under twenty years had elapsed between the death of Victorinus in 268 or 269 and the proclamation of Carausius as emperor in Britain in 286, so that the coins of Victorinus, all struck in Gaul, were probably well known to the officials of the mints which the British usurper set up at London, and at “C”—whether the latter be Camulodunum, or (as I am inclined to think) Corinium—Cirencester—the largest in area of all British towns save London. The legions commemorated by Carausius are I Minervia (Pl. V. 8), II Augusta (Pl. V. 9), II Parthica (Pl. V. 10), IV Flavia Felix (Pl. V. 11, 12), VII Claudia (Pl. V. 13), VIII Augusta, XX Valeria Victrix (Pl. V. 14), XXII Primigenia, XXX Ulpia (Pl. V. 15, 16).

We note at once that the same problem crops up

here that we have already met in the coins of Victorinus. Of the nine legions in the list only two, II Augusta and XX Valeria Victrix, belonged to the army of Britain, and were certainly at the disposition of Carausius. Of the remaining seven, four are the regular Rhine-Legions, I Minervia, XXX Ulpia, VIII Augusta, XXII Primigenia. But there remain three most surprising additions. We have VII Claudia and IV Flavia Felix, whose beat was in Upper Moesia, near Belgrade, with Singidunum and Viminacium as their garrison towns. And lastly we find II Parthica, the Italian legion that lived on the Alban hills. Rome is a *very* long way from Rouen or Boulogne, the nearest places occupied by Carausius, but Belgrade is a good bit further. What are we to make of the list? This is ground over which my good friend the Treasurer worked, when in 1907 he wrote his excellent summary of the coins of Carausius. But he obviously felt the same doubt which I feel to-day. Were the seven non-British legions of which we find the names and badges in this series ever under Carausius's power—in whole or part? Or was he, on the other hand making a "propagandist" bid for their allegiance? Mr. Webb cautiously and judiciously refrains from making the decision: he writes (*Num. Chron.*, 1907, p. 78) that Carausius "commemorated no legion from which he did not receive, *or at any rate had no hope of receiving* support". This phrase covers both the hypotheses: if he *had* received support, the coins are commemorative of his actual army: if he had only *hopes of support* then they were "propagandist", viz. advertisements intended to influence corps which were still in the hands of Maximianus Herculeus,

and Constantius Chlorus, the legitimate emperors of the West.

Now if I have to make a decision, it must be in favour of the latter alternative. It is quite possible that Carausius during the earliest years of his reign, when he was holding not only Boulogne but a large strip of Northern Gaul, including almost certainly Rouen, may have been joined by deserting detachments of any of the four Rhine Legions, all of whom he commemorates. But just as I asked whether Victorinus could by any possibility have enlisted *rexilations* of legions quartered in Judaea or the Thebaid, so I must ask whether Carausius could conceivably have got hold of fractions of legions quartered in Italy, or in Serbia. It is most unlikely, more especially because the two Danube legions, IV Flavia Felix and VII Claudia, were not in Maximianus's half of the Roman empire, but belonged to the part which was ruled by his colleague Diocletian, and so belonged to the Eastern and not the Western army-organization. I am inclined therefore to surmise that in his earliest days Carausius had hopes of becoming emperor of the whole Roman world, and struck at large coins honouring distant legions, just as Victorinus had done.

The types of the coins are interesting, as confirming, in all save one case, the knowledge concerning regimental badges which we get from the earlier issues of Victorinus and Gallienus. I Minervia has a ram, XXII Primigenia a capricorn, XX Valeria Victrix a boar, as on the issues of the first named emperor: the Neptune of XXX Ulpia, the centaur of II Parthica, the bulls of VIII Augusta and VII Claudia, and the lion of IV Flavia Felix are found on the legionary

coins of Gallienus. Carausius adds one more legion to the series, which neither of his predecessors had honoured, the British II Augusta, quartered at Caerleon. His coins give it a capricorn as badge, which tallies perfectly with many monumental records of this corps found in Britain. He does *not*, for reasons unknown, commemorate the third British legion—VI Victrix—which dwelt at York, and was there still ninety years later, when the *Notitia Dignitatum* was compiled. This seems so odd that I almost fancy that a coin of VI Victrix will turn up some day in an excavation that is yet to come.

The only really puzzling feature in Carausius's legionary series is that beside the normal coins (one of them in silver) giving IV Flavia Felix with a lion or two lions as badge, there are two others (one in silver) giving the same legionary name round a centaur carrying a long club. This was the proper badge of II Parthica, commemorated on many of Carausius's copper issues, though its habitat was in Italy. I can only suppose this to be a blunder—this silver coin is one of the few of the whole series struck at C [Camulodunum or Corinium] and not at London. Perhaps the designers at the smaller mint were less well instructed in heraldry than those of London, who very properly gave IV Flavia Felix its lion. It is worth noting that among the rare coins struck at the mint RSR—Rouen as is generally believed—there are also pieces of IV Flavia Felix with the lion, just as is the case at London: it is only the "C" mint coins which have the centaur. One of these Rouen coins is said by Cohen to exist in gold, but he only quotes it from "*ancien catalogue*", which is unsatisfactory. [It is

his number 139.] It is curious to speculate why this particular legion, the remotest by distance from Britain of all which Carausius commemorated, should have the greatest divergence of types. For its monies show three varieties, (1) a single lion, as on coins of Gallienus; (2) two lions and the head of a goddess, as on the coins of Victorinus; and (3) the inadmissible centaur spoken of above. Was the last, perhaps, a mistake discovered by the moneyers after an interval, and then replaced as a correction by both the legitimate types of the one and the two lions?

So much for Carausius. On Allectus I must only linger for a minute. He shows but one legionary coin, and of this only a single specimen is known, which was found at South Shields, and published in our Journal by Mr. Roach Smith in the year 1885. It commemorates the Second Legion—II Augusta—which lived at Caerleon. But unfortunately it is blundered, giving the badge lion, while II Augusta owned the capricorn, as dozens of inscriptions show. And it only reads **LEG II**, not **LEG II AVG**, as it should have done, to distinguish this British legion from II Parthica in Italy, or II Italica in Noricum. Wherefore I can only stigmatize this piece as a moneyer's blunder—some unintelligent and ignorant official at the mint, when directed to honour this old British legion, passed on the order to an underling in the engraver's department, who put the Lion of IV Flavia Felix below the title of II Augusta. And so the last Roman legionary coin tells us nothing—except the already known fact that Provincial mints were often very careless.

C. OMAN.

V.

SOME NOTES ON LATE ROMAN MINTS.

[SEE PLATES VI, VII.]

I. *The Meaning of the Mint-Marks SMLAP and SMKAP on Coins of Valentinian I and his Colleagues.*

IN the columns of this Journal there appeared in 1915¹ an excellent article by Sir Arthur Evans, in which he speaks among other things of the last issues of the London Mint. The value of this fine piece of work will not be diminished if we suggest a small correction of one of his interpretations—namely of that of **SMLAP** on ‘miliarensia’ of Valentinian I and his colleagues as S(acra) M(oneta) L(ondinii) A(ugustae) P(rima, sc. officina)—showing the old and new name of the city side by side.² Such a use of two names for one town would in itself be strange;³ Arles is always either Arelate or Constantina, never both together; it is conclusively disproved in this case, when we recall a closely related mint-mark, **SMKAP** (:S:M·K·A·P). This legend is very rare indeed and it is not surprising that it escaped Sir Arthur Evans’s notice. In this case, there is no question of a town K... A(ugusta). The explanation of A as “Augusta” is therefore in the other case also wrong. The A·P·, common to

¹ See *Num. Chron.*, 1915, pp. 433 ff.

² *Op. cit.*, p. 483.

³ Evans’s own quotations from Ammianus prove that London at this time already bore the name of Augusta.

the two series, should probably mean "A(rgentum P(usulatum))".⁴ We have now to determine what mints are denoted by the two remaining letters, L and K. These two mints, related by style, can be none other than Lugdunum and Konstantina-Arelate, as will appear from a study of the "miliarensia" of the two mints.

(a) *Konstantina-Arelate.*

1st Issue. This still shows the customary mint-mark.

PCON*	SCON*	TCON*
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Reverse. SALVS REIPVBLICAE, four standards.

Obverses.

(1) DNVALENTINI—ANVSPFAVC, bust with paludamentum r., diadem of pearls.

TCON* [PL. VI. 1.]

(2) DNVALEN—SPFAVC, bust as above. Paris, 78·7 grn. (5·10 grm.), 24 mm. (Gnechi, *Medagliioni romani*, I, pl. 35, no. 6).

Gratian in all probability was not yet on the throne.

2nd Issue. The coins are now larger and heavier (25–26 mm., from c. 78 to 88 gr., 5·05–5·68 grm.) The coin of Gratian possibly rather belongs to the next issue. This issue was certainly made before the accomplishment of the "Vota quinquennalia" of Valentinian I. But the diadem of roses and leaves, which continues for a time in later issues, now appears, and the mint-mark changes to SMKAP, though the style of the bust and the lettering remain the same.

⁴ The letters P, PS (= Pusulatum) occur constantly on silver of this period: the word "argentum" is omitted for lack of space.

Reverse. **VOTIS V MVLTIS X** in laurel-wreath.

Obverses.

- (1) **DNVALENTINI—ANVSPFAVC**, bust with paludamentum r., diadem of roses and leaves. London, 87.6 grn. (5.68 grm.), 25 mm. [Pl. VI. 2.]
- (2) As no. 1, but with cuirass. Niklovits Coll. (Budapest), 78.7 grn. (5.10 grm.), 25 mm. [Pl. VI. 3.]
- (3) **DNVALEN—SPFAVC**, bust as on no. 1. Milan, 77.9 grn. (5.05 grm.), 26 mm. [Pl. VI. 4.]
- (4) **DNGRATIANVSPFAVC**, small bust with cuirass r., diadem of roses and leaves. Vienna, 81.8 grn. (5.3 grm.), 27 mm. [Pl. VI. 8.]

3rd Issue. Closely similar in style to the previous issue and therefore in all probability struck just after the accomplishment of the "vota quinquennalia". Size, weight, diadem, and mint-mark all remain the same.

Reverse. **VOTIS X MVLTIS XV** in laurel-wreath.

Obverses.

- (1) **DNVALENTINI—ANVSPFAVC**, bust with cuirass r., diadem of roses and leaves. London, 81.3 grn. (5.27 grm.), 25 mm. [Pl. VI. 5.]
- (2) The corresponding issue of Valens is not known.
- (3) The coin of Gratian, no. 4 in the 2nd issue, might belong here.

4th Issue. There is now a decided reduction in size and weight.⁵ The exergue reads **SMKAP** and :**S·M·K·A·P**. Both forms of diadem occur.

⁵ The size is now 23 mm., the weight varies from 58-68 grn. (3.7 grm. to 4.4 grm.).

Reverses. (a) **VOT V MVLT X** in laurel-wreath.

Obverses.

(1) **DNCRATIANVSPFAVG**, bust with paludamentum r., diadem of pearls.

London, 67.4 grn. (4.37 grm.), holed, 23 mm.
[Pl. VI. 6.]

(b) **VICTORIA AVGVSTORVM**, Victory, with l. foot set on globe, standing r., inscribing **VOT X MVLT XV** on shield set on column.

(This reverse occurs only in Western mints, viz. Rome and Treviri: it is in place then at Arles.)

Obverses.

(1) **DVALENTINI—ANVSP FAVG**, bust with paludamentum r., diadem of pearls.

Vienna, 67.9 grn. (4.40 grm.), 23-23½ mm. [Pl. VI. 9.] Mint-mark : **S·M·K·A·P**.

(2) As on no. 1, but bust cuirassed, diadem of roses and leaves.

Trau Coll. (Vienna), 62.5 grn. (4.05 grm.), 23 mm.
[Pl. VII. 1.]

(3) **DVALEN—SPFAVG**, bust with paludamentum r., diadem of pearls.

Trau Coll. (Vienna), 57.1 grn. (3.7 grm.), 23 mm.
[Pl. VII. 2.]

Here the series of "miliarensia" closes before the accomplishment of the "vota quinquennalia" of Gratian. If any doubt remains about the Arelate mintage of these coins, we may compare the "miliarens" (Pl. VI. 9) with the solidus of Valentinian I (Pl. VI. 10) with mint-mark **KONSAV**: the likeness of the busts is evident and we see that we have a right to expect **K** and not **C** as initial letter.

(b) *Lugdunum.*

We start with the old form of mint-mark and the same reverse type as at Arles. This fact is in itself

remarkable, as the type only occurs at this date at those two mints: it is not surprising, then, that they should share the **SML—K—AP** signature.

1st Issue. Mint-mark: **LVC.**

Reverses. (a) **SALVS REIPVBLICAE**, four standards.

Obverses.

(1) Valentinian I.

London, 87.5 grn. (5.67 grm.), 23 mm. [Pl. VII. 3.]

(2) Valens.

London, 85.1 grn. (5.51 grm.), 24–25 mm. [Pl. VII. 4.] Both with diadem of pearls.

Reverse. (b) **VOTIS V MVLTIS X** in laurel-wreath.

Obverse.

(1) Valentinian I, diadem of flowers and leaves.

London, 75.5 grn. (4.89 grm.), worn, 23–24 mm. [Pl. VII. 5.]

2nd Issue.⁶ It appears that the mint-master now received new instructions corresponding to those given to Arelate. As at Arelate, there is a slight increase in the size of the coins. The diadem of pearls now appears.

Mint-mark: **S.M.L.A.P** and **.S.M.L.A.P**

Reverse. **VOTIS V MVLTIS X** in laurel-wreath, as in first issue, (b).

Obverses.

(1) Valentinian I. Evans Coll. 81 grn. (5.25 grm.), 25 mm. (*Num. Chron.*, 1915, pl. XX, no. 1), Weber, 75.9 grn. (4.92 grm.), 25 mm.

⁶ The **SMLAP** coins have already been described by Evans, *op. cit.*, 1915, pp. 482 ff. We add here, for purposes of comparison, a Paris specimen of Valens (Pl. VII. 6) and a Vienna specimen of Gratian (Pl. VI. 7) showing a slight variation of mint-mark **.S.M.L.A.P** .

(2) The corresponding issue of Valens is not known.
 (3) Gratian. Paris, 79.5 grn. (5.15 grm.), 24–26 mm.
 [Pl. VII. 8.] Vienna, 71 grn. (4.6 grm.), 26 mm.
 [Pl. VI. 7.]

3rd Issue. As at Arelate, the reverse **VOTIS X MVLTIS XV** follows on closely here. It appears, then, to belong to the occasion of the “solutio” of the “Vota quinquennalia”, and both “Vota X” and “Vota XV” are “suscepta”.

Mint-mark: **S·M·L·A·P·** 

Reverse. **VOTIS X MVLTIS XV** in laurel-wreath.

Obverses.

(1) Valentinian I. Cohen II, no. 80.
 (2) Valens. Paris, 72 grn. (4.66 grm.), holed, 26½ mm.
 [Pl. VII. 6.]

Here the Lugdunum issues cease: we have no coins of the reduced size and weight. We are fortunately able to prove that this stoppage is actual,—not simply due to the insufficiency of our records. If we compare Nos. 6 and 7 on Pl. VI we see that the busts of the larger coin (Lugdunum) and the smaller (Arelate) are the work of the same die-cutter. The conclusion is that there was a transference of staff from one mint to the other—a common occurrence in the third and fourth centuries. As in the 4th issue at Arelate, following this removal, the “Veta quinquennalia” of the elder Emperors have already been accomplished, while those of Gratian have not, the “miliarensia” with mint-mark **SMLAP** evidently cease with issue 3.

I trust that I have succeeded in this short sketch in proving that the mint-marks **SMLAP** and **SMKAP** denote the two Gallic sister mints.

II. *The Mint of Viminacium.*

It has been open to doubt, even among experts, whether the coins of Pacatian were really struck at Viminacium.⁷ But if we compare the coin of Philip II of Viminacium (Pl. VII. 9, Pick. No. 120) with the two adjoining coins of Pacatian (Pl. VII. 10, 11), we see from the similarity of busts and letters (notably the Λ without cross-stroke) that all three coins⁸ come from the same hand.

ANDREAS ALFÖLDY.

⁷ Cp. Laffranchi in *Riv. It.*, 1908, p. 203, n. 2; Mattingly, *J.R.S.*, 1921, p. 258.

⁸ All three coins are in the Hungarian National Museum, Budapest.

VI.

THE FREQUENCY-TABLE.

IN a recent review of Dr. M. von Bahrfeldt's work on the Roman gold coinage, I made some remarks on the frequency-table and its merits as a method of determining the standard on which a given set of coins was issued. In this paper I propose to deal further with the subject.¹

¹ The principle of the frequency-table was, I believe, first enunciated by Babelon, *Traité*, i, p. 577, n. 4. I used it in an attempt to determine the weight of the siliqua (*Num. Chron.*, 1906, p. 343), and Robinson has applied it to the Cyrenaic series (*Num. Chron.*, 1915, p. 261). Though his material was scanty, Macdonald made effective use of it in his paper on the *Silver Coinage of Crete* (*Proc. Brit. Acad.* ix, 1919). For Norman coins, Brooke has employed it in his *Catalogue*, Vol. I, p. 153. Regling (*Klio*, xiv, 1915, p. 95) maintains that it usually gives the same result as the average. As we shall see, it by no means always does so. He further regards it as only suitable to coins struck *al marco*, a criticism which seems to me to miss the point. If all coins were in mint condition, and had lost nothing by wear, he would be right. But in present circumstances the best we can do is, by finding that point around which the individual weights are most closely gathered, to ascertain what we suppose the issuers were aiming at. O. Viedebant (*Forschungen*, p. 27) has adopted the frequency method as the best available, but his intervals are rather too large, and his results unnecessarily vague. He rightly observes that we must not expect exactitude, but that whatever figure we work with cannot be regarded as anything better than a working-figure (Rechnungswert). Thus he regards 8·34 grm. as the working-figure for the daric; a table of frequency gives 101 examples heavier and 81 specimens lower than 8·34 grm. But, since most specimens have suffered a little by wear, the norm is probably to be set a little higher; the rule is that there should

As the method may not be familiar to all my readers, I describe it briefly. We arrange a scale of weights from the minimum to the maximum shown by the coins of the series under examination, marking intervals, say, at 0.05 gramme. No smaller interval is practicable, for the following reasons:—(1) the probability that the issuers of the coins themselves were not exact to a greater degree (on which see the note at the end of this article); (2) the faultiness of our records, due to carelessness in weighing or recording or inaccuracy of the balances. The specimens which come within each of these intervals are then indicated by dots placed against the interval; the curve of frequency is the line connecting the outermost dots. It is, however, less cumbersome—and this is the method which, at Mr. Robinson's suggestion, I have always adopted—to note the number of specimens not in the intervals between the various points on the scale, but against the points to which they most nearly approximate. Thus, if the scale is arranged thus:

14.55

14.50

14.45

14.40

we note against 14.50 every example of a coin whose recorded weight is nearer to 14.50 than it is to 14.55 or 14.45 grm. So that against 14.50 grm. will be noted all specimens whose weights are recorded as 14.52, 14.51, 14.50, 14.49, or 14.48 grm. If then we find, for

be a steeper curve (i.e. fewer examples) above than below the norm. (This article was written before the appearance of Viedebant's *Antike Gewichtsnormen und Münzfüsse*, Berlin, 1923. I have added a few references where they seem useful.)

instance, a distinct majority of coins noted against 14.50 grm., we come to the conclusion that that weight is an approximation to the normal. (We can, as we shall see, perhaps obtain a still closer approximation by making an allowance for loss of weight by circulation.)

This method ignores, in the result though not in the working out, all the isolated high or low weights. It thus seems likely to give a truer result than the method of taking the average, in which excessively high or low weights all have their effect. To give the percentage figures, as Dieudonné thinks ought to be done,^{1a} would also vitiate the results for the same reason. Let us take one or two examples: they will, at any rate, serve to prove that the frequency method does not always give the same result as the average.

Of ninety-six silver coins of Istrus, struck for the most part, it would seem, in the fourth century B.C.,² the maximum is 7.02 grm., the minimum 4.12 grm., the average 5.66 grm. The number of specimens is rather too small to give a satisfactory result, the entries being scattered over a very wide range, and six being the highest number of entries at any point. But one thing is at once clear, and that is that although the highest point is reached at 5.55 grm. and 5.50 grm. (six each), the weights divide into two groups, one reaching its highest point at the weights just mentioned, the other at 6.75 grm. The averaging method would, of course, never have revealed this feature; but that it has some

^{1a} *Rev. Num.*, 1916, p. 313.

² B. Pick, *Die antiken Münzen von Daci und Moesien*, I, i, pp. 159-164, nos. 405-447, with omissions of plated or mutilated coins.

significance becomes clear when we examine the descriptions of the coins. There are in fact two standards; for we find that all the specimens in the higher group belong to a class which the editor has placed early in his classification, partly on the ground of style, partly because the mint-marks are either absent or consist of simple elements (single letters as distinct from groups of two or three, or monograms). On the other hand, the coins bearing such groups or monograms range themselves under the lower standard. They are, it is true, accompanied by a certain number of specimens with the simpler mint-marks; but the general division into two classes is clear enough.

Robinson's analysis of the weights of certain Cyrenaic coins by the same method has similarly revealed the existence of two standards.³

Another series shows the defect of the averaging system. 240 silver shekels of Tyre of "Phoenician" weight, struck between 126 B.C. and A.D. 65⁴ show a maximum of 14.50 grm., a minimum of 11.66 grm., and an average of 14.025 grm. But the frequency-table shows a solid block of coins well above this last figure, and the top of the curve is, if anywhere, in the neighbourhood of 14.25 grm.

The ancient British or Gaulish gold coins which have already been dealt with elsewhere similarly prove that the averaging method is deceptive.⁵

³ *Num. Chron.*, 1915, p. 261.

⁴ Taken chiefly from the British Museum Catalogue, *Phoenicia*; with additions from Rouvier's list of coins of Phoenicia and Macdonald's Hunterian Catalogue. Viedebant's table (*Ant. Gewichtsnormen*, p. 95) gives the same result, if my interpretation (which differs from his) is right.

⁵ *Num. Chron.*, 1919, pp. 177-178.

At Olympia,⁶ the coins of which the weights are recorded by Seltman show a frequency summit at 12.00 grm. (74 coins). But above this the gradient is not steep: there are 66 coins at 12.05, 69 at 12.10, 60 at 12.15, 47 at 12.20—then the curve falls very rapidly. It would appear that the true summit is somewhere about 12.15 grm.

In series in which, owing either to irregularity on the part of the mint or to some other cause, the weights cover a very wide range, it is impossible to get a satisfactory result by taking so small an interval as 0.05 grm. For instance, in the case of the tetradrachms of Aradus struck between 137 and 46 b.c., 0.10 grm. seems to be the smallest suitable interval. With this we get the following result⁷: maximum 15.49 grm., minimum 13.90 grm., average 14.96 grm. The frequency-summit is at 15.10 grm.; the gradient above that is very steep, and we may assume that the normal was but slightly above that mark.

These examples, together with those given in the review above mentioned, may suffice to illustrate the method. Can we test it by application to a series of coins of which the statutory weight is known? Let us take the gold nobles of Edward III and Edward IV, of which the statutory weight was 7.78 grm. A table constructed from the specimens in the British Museum, the half-nobles being included at double their weights, shows its highest point definitely at 7.70 grm. (76 specimens out of 207). The average of these specimens is 7.647 grm.

⁶ See *Num. Chron.*, 1923, p. 361.

⁷ Based on the coins in the British Museum Catalogue. See also Viedebant, *Ant. Gewichtsnormen*, p. 103.

The statutory weight of the English angel from Edward IV to Elizabeth was 80 grains (5.18 grm.). A table of 173 specimens shows the highest point at 5.15 grm. (55 specimens); but there are no less than 50 specimens at the next grade (5.10 grm.). As the choice of the points at which we fix the intervals is arbitrary—one might fix them at 5.22, 5.17, 5.12, and so on, instead of 5.20, 5.15, 5.10 grm.—we should perhaps regard the real highest frequency-point indicated by this table as being somewhere between 5.15 and 5.10 grm.—say 5.13 grm. The average weight of these angels is 5.094 grm.

It will be observed that in both English examples the frequency-table indicates a point about 1 per cent. below the statutory norm.

Are we justified in assuming that the deficiency in ancient coins was in about the same proportion? Medieval coins differ from ancient ones in being thinner and flatter. They thus offer a larger area to friction than ancient coins in high relief; and their edges were more easily clipped by nefarious persons.⁸ The latter factor may, however, be neglected; for coins which have lost much by clipping are not sought after by collectors, and accordingly play but a small part in the series we have examined. The difference of relief is also probably negligible, seeing that if a flat coin offers a larger area to attrition, one

⁸ Filing of edges must always have been possible, but clipping became easy when the fabric of coins became flat, as it did in the fourth century. Hence the provision for the punishment of any one *qui mensuram circuli exterioris arroserit ut ponderis minuat quantitatem . . . quicunque solidum circumcidet*, in *Cod. Theod.* IX, Tit. XXII (A.D. 317), where the commentary of Gothofredus should be consulted.

in high relief, on the other hand, is likely to suffer more heavy loss in just its most prominent parts. Probably, on the whole, there is little to choose between the two kinds of coins as regards tendency to loss in circulation. The same may probably be assumed in regard to gold and silver. Gold is softer, and may lose more by attrition than silver; but this greater loss is doubtless compensated by the fact that gold circulates less than silver.

The allowance to be added might be tested by other series of which the statutory weight is known. Meanwhile, we may adopt—purely as a working rule—an addition of 1 per cent. to the weight indicated by the frequency-table. Thus, in the cases we have dealt with:

Istrus, highest point between 5.55 grm. and 5.50 grm., say 5.525 grm. Add 1 per cent., norm 5.58 grm.

Tyre, highest point 14.25 grm. Add 1 per cent., norm 14.39 grm.

Aradus, 15.10 grm. Add 1 per cent., norm 15.25 grm.

Olympia, 12.15 grm. Add 1 per cent., norm 12.27 grm.

NOTE.—On the exactitude of ancient weighing.

The degree of this can only be tested by weighing a number of ancient coins of one issue in mint state, and that is a condition difficult to realize. A little hoard of 20 gold staters of Lysimachus, however, fulfils it.⁹

⁹ *Num. Chron.*, 1919, p. 9.

Eight of these were from one pair of dies, and twelve from another; they came evidently from the same mint, and had seen no circulation. Their weights in grammes were: 8.62, 8.60, 8.58, 8.57 (4), 8.55 (3), 8.53 (2), 8.52 (2), 8.51, 8.49 (2), 8.45, 8.42 (2). This shows a variation of 2.3 per cent. These coins belong to a period (323-281 B.C.) when the weighing of coins may be supposed to have been as highly organized as at any period of antiquity. But I doubt whether the accuracy shown is greater than could have been obtained by cutting a bar of uniform thickness into equal lengths with an ordinary measure. And it is, in any case, very little more than the accuracy revealed by the hoard of 29 British or Gaulish staters already mentioned.¹⁰ We cannot assume that the Greeks achieved the marvellous accuracy for which the glass weights of the Arabs of the eighth century are evidence.¹¹

¹⁰ Maximum 6.36 grm., minimum 6.19 grm., variation of 0.17 grm., or 2.66 per cent.

¹¹ See W. M. F. Petrie, *Num. Chron.*, 1918, p. 115. "The average error in the eighth century is 0.06 grain, or 4 milligrams; in the early Fatimites it is 0.12 grain, and increases to 0.37 grain in the close of that series. Thus it is clear that all such weights must be weighed to tenths of a grain. In the early weights there is yet finer accuracy; in 765 the half-dinar weights only vary from 32.51 to 32.67 grains; and in 780 the astonishing result of three weights is 32.662, 32.665, and 32.667 grains, or all within $\frac{1}{200}$ of a grain, or a third of a milligram. To reach such accuracy it was needful to use the finest chemical balance, with closed case, double weigh the glass weights against each other, and read a long series of swings of the balance. How such accuracy was reached in the manufacture is incomprehensible. Nothing known of any other age at all approaches the fine weighing of the eighth century."

As a modern comparison, it may be mentioned that the English Coinage Act of 1870 allows a remedy of 0·20 grains troy (0·01296 grammes) in the sovereign (123·2744 grains = 7·98805 grammes), or about 0·0162 per cent.¹²

It is probable that, owing to the development of mechanical means of division and weighing, modern craftsmen have lost the accuracy of eye and hand which the old craftsmen possessed. But comparatively exact automatic balances, calculated to reject under-weighted or over-weighted blanks, are not difficult to construct on the principle of the pocket guinea-balances which are familiar to us from the eighteenth century. Extant examples of such balances of Roman date show that the principle was known to the ancients. If such instruments were used, combined with the accuracy of hand which comes from long-inherited craftsmanship, we need not wonder at the degree of exactitude attained by Greek coins; although for the Arab glass-weights which have been mentioned so simple an explanation will not suffice.

An indication of the degree of exactitude which was required in the weighing of precious metal in the fifth century B.C. is given by the record of the weight of a "gold tetradrachm"¹³ in the Treasury of Athena on the Acropolis at Athens. The weight is given as 7 drachms $2\frac{1}{2}$ obols. The Attic obol weighed, as nearly as we can make out, 0·364 grm. But for the purpose of identifying this object in the inventory, great

¹² Royal Mint, *Statutes . . . relating to Coinage, &c.*, 1915, p. 21.

¹³ Really a reproduction, probably a cast, less probably a struck proof, of a silver tetradrachm, in gold. See *Hermes*, xxxvi (1901), p. 317.

exactitude was perhaps not considered necessary. Coins of much smaller weight than this were, however, issued, such as the Attic hemitetartemorion, or $\frac{1}{8}$ obol, of 0.09 grm., or the disconcertingly tiny silver coins of Aradus, weighing from 0.15 to 0.05 grm., or the electrum of Ionia or Lydia, struck in ninety-sixths of the stater to the weight of 0.14 or 0.15 grm. We must admit, since these denominations are extant, that they had some meaning. But we are not justified in assuming that the Greeks cared about weights less than the least of these, to wit, 0.05 grm.

G. F. HILL.

VII.

ANGLO-SAXON ACQUISITIONS OF THE
BRITISH MUSEUM.

III. NORTHUMBRIA.

KINGS OF NORTHUMBRIA.

EARDWULF, 796-806.

Moneyer uncertain.

276. *Obv.* — + EΛRDVVΛ. (retrograde). Cross and four pellets. From same die as B.M.C., No. 17.

Rev. — ODREKΓ (retrograde). Cross pattée.

Æ 12.5 grs. Presented 1922.

AELFWALD II, 806-807.

Eadwin.

277. *Obv.* — + EΛLFVALDR (retrograde). Cross.

Rev. — + EΛDVINΙ (retrograde). Cross.

From same dies as Fig. 5 in *B.N.J.*, X, p. 5.

Æ 14.7 grs. Purchased 1902.

EANRED, 807-841.

Daegberct.

278. *Obv.* — + EANREDREX Pellet in circle. From same die as B.M.C., No. 80.

Rev. — + DAEGBERCT Pellet in circle.

Æ 20.4 grs. Evans coll.

Eadwin.

279. *Obv.* — EΛΛEDREX (retrograde). Pellet in circle of pellets.

Rev. — + EΛDVINΙ (retrograde). Cross.

Æ 15.8 grs.

Eardwulf.

280. *Obv.* — +EANHEDHEX Cross.

Rev. — EHRRDVVL.F Cross.

Æ 20·2 grs. Purchased 1886.

Huaetred.

281. *Obv.* — +EANREDREX Cross.

Rev. — +HVAETRED Cross.

Æ 18·5 grs. Evans coll.

Monne.

282. *Obv.* — +EANREDREX Pellet in circle. From same die as B.M.C., Nos. 217, 218.

Rev. — +MONNE Pellet in circle.

Æ 17·4 grs. Hasluck bequest, 1920.

Wulfheard.

283. *Obv.* — +EANHEDHE+ Cross. From same die as B.M.C., No. 247. There is no circle round the cross on the obverse.

Rev. — +VVLFHEARD Cross. From same die as B.M.C., No. 248.

Æ 17·8 grs. Evans coll.

AETHELRED II, 841-844.

Coenred.

284. *Obv.* — +EDILREDRE (retrograde). Cross.

Rev. — +COENRED (retrograde). Cross.

Æ 18·2 grs. Presented 1922.

Eanred.

285. *Obv.* — +EDFLREDRE Cross. From same die as B.M.C., No. 337.

Rev. — +EANRED Cross of five pellets.

Æ 18·5 grs. Evans coll., found at Richborough.

Eardwulf.

286. *Obv.* — + EDILREDREX Cross in circle of pellets.

Rev. — + EARDVVLF Pellet in circle.

Æ 17.6 grs. Evans coll.

287. *Obv.* — + EDILREDRE Cross in circle.

Rev. — + EARDVVLF Five pellets in circle.

Æ 23.6 grs. Evans coll.

288. *Obv.* — + EDILREDREX Pellet in circle. From same die as B.M.C., No. 364.

Rev. — + EARDVVLF• (retrograde). Pellet.

Æ 11.9 grs. Evans coll.

Monne.

289. *Obv.* — + EDDELREDREX Cross.

Rev. — + MONNE Pellet.

Æ 20 grs. Evans coll.

REDWULF, 844.

Broðer.

290. *Obv.* — + REDVLFRE Cross. From same die as B.M.C., Nos. 631, 632.

Rev. — + BROÐER Cross

Æ 17.6 grs. Evans coll.

Cuðberht.

291. *Obv.* — + REDVLFREX Cross. From same die as B.M.C., Nos. 637, 639.

Rev. — + CVDBEREHT Cross.

Æ 24.1 grs. Evans coll.

OSBERHT, 849-867.

Eðelhelm.

292. *Obv.* — OSBERTR (retrograde). Pellet.

Rev. — + EDERHEFIM Pellet in circle.

Æ (fragmentary). Presented 1922.

Monne.

293. *Obr.* — XERTH[RE]S[O] — Rosette of pellets. From same die as B.M.C., No. 669.

Rev. — + MON · N[on]E (retrograde). Cross.
Æ 18.3 grs. Evans coll.

294. *Obr.* — XERTH[RE]S[O] — Star of eight points.

Rev. — + MON · N[on]E (retrograde). Pellet.
Æ 17.6 grs. Presented 1922.

No moneyer's name (or Osberht?).

295. *Obr.* — OZBERH · B (retrograde). Pellet.

Rev. — OΣBEBH↑B Five pellets crosswise.
Æ 12.6 grs. Presented 1922.

AELLE, 867.

Moneyer uncertain.

296. *Obr.* — AELLE · REX (retrograde) Cross.

Rev. — Uncertain legend. Cross with pellet in each angle.

Æ 15.4 grs. Presented 1922.



This coin, if correctly interpreted, seems to be the first that can be assigned to the short reign of Aelle. The attribution in *Archaeologia*, XXV, p. 303, was undoubtedly wrong; the legend of the coin, as drawn, was hopelessly blundered, and the occurrence of a coin of Aelle in the Hexham find, in which there were none of Osberht, was unlikely. Similarly, other coins mentioned by Rashleigh (*Num. Chron.*, 1869, p. 65) are very doubtfully assigned to

the reign of Aelle (see P. Carlyon-Britton sale, part I, lots 226, 227). The style of this coin connects it closely with the coins of Osberht of careless workmanship; the lettering is also of the tall thin form peculiar to Osberht's coins. The form of the letter L is curious, with the lower limb curved round so strongly as to form something very like the Arabic numeral 6; this form, but with the curve less complete, is found on Redwulf's coins by Alghere (or Aldhere?) and on the coins of Ethelred II by the same moneyer, and on a few by Leofthegn. Of the obverse inscription I think there is no doubt that the above reading is correct, the only indistinct letter is the R of REX. The reverse inscription is quite uncertain; if retrograde, it begins +EΛ and ends RE, or possibly the cross is the last letter of REX, in which case the king's name occurs on both sides as on the Osberht coin (No. 295, above).

ARCHBISHOPS OF YORK.

WIGMUND, 837-854.

Coenred.

297. *Obv.* — +VIGMVND·IREP Cross. From same die as
B.M.C., No. 724.

Rev. — +COENRED Cross.

Æ 14.3 grs. Evans coll.

Eardwulf.

The coin given to this moneyer (B.M.C., No. 738) is a coin of King Eardwulf and is struck from the same obverse die as B.M.C., No. 17; the moneyer is possibly ESMVND.

Hunlaf.

298. *Obv.* — +VIGMVNDIR Cross. From same die as
B.M.C., No. 777.

Rev. — +ΗΝΙΓΧΑΦ: Rosette of pellets.

Æ 17.4 grs. Evans coll.

WULFHERE, 854-900.

Wulfred?

299. *Obv.* — + VLFH^HE^RE^ABED (retrograde). Cross in circle of pellets.

Rev. — + - C^FR^ED Cross of five pellets.

Æ 19 grs. Montague sale, 1895, lot 399.

UNCERTAIN COINS (B.M.C., p. 200).

No. 808 is a coin of King Eardwulf from same obverse die as B.M.C., No. 17; moneyer uncertain.

No. 810 is a coin of Ethelred I from same dies as *Brit. Num. Journ.*, vol. X, p. 3, fig. 2.

Another uncertain coin, catalogued as undecipherable, is of King Eardwulf, and reads:

Obv. — + E^ARDV^L: Cross, pellet in each angle.

Rev. — + VVLFRED (retrograde). Cross.

DANISH KINGS OF NORTHUMBRIA.

HALFDAN.

Penny of London, struck, presumably, in the period 872-4, after his capture of London in 872 and before his creation of the puppet king, Ceolwulf II, of Mercia, in 874.

300. *Obv.* — AIF (retrograde). DEI (to r.) XRX (to l.). Degraded Victory type of two emperors seated with Victory above.

Rev. — London monogram. Cross above, pellets below and at side.

Æ 21.4 grs. Montague sale, 1896, lot 400 (illustrated).

(GUTHRED) CNUT, 883-894?

301. *Obv.* — CNVTREX at ends of limbs of cross; pellet before each group of letters.

Rev. — +MIRABILIAFC. Cross with pellet in two angles. From same die as B.M.C., No. 916.

AR 22.9 grs. Evans coll.

302. *Obv.* — Similar, pellets in groups of three and four.

Rev. — +CVN •• NET •• TI •• Cross, pellet in two angles.

AR 22.6 grs.

303. *Obv.* — As preceding.

Rev. — +CVN+NET+TI •• Cross, three pellets in field.

AR 22.2 grs. Hasluck bequest, 1920.

304, 305. *Obv.* — As preceding.

Rev. — +CVN:ET •• TI Cross, pellet in two angles.

AR 19.4, 20.3 grs. Two coins from the same reverse die, both from Evans coll. and Cuerdale find.

CNUT AND SIEGFRED, c. 894.

306, 307. *Obv.* — CNVTREX •• at ends of cross and between.

Rev. — +SIEFREDVS Cross, pellet in two angles.

AR 18.9, 19 grs. Two coins from the same reverse die, one from Evans coll., the other presented by H.M. the King; both from Cuerdale find.

SIEFRED, c. 894-898.

308. *Obv.* — +SI EF RED VS Cross pattée, two pellets at end of each limb. From same die as B.M.C., No. 1034.

Rev. — +REX at ends of cross crosslet, trefoil of pellets between each pair of letters.

AR 22 grs. Presented by H.M. the King, from Cuerdale find.

309, 310. *Ov.*—Similar to preceding.

Rev.—Similar to preceding, but four pellets added in field.

AR 21·6, 19·5 grs. Evans coll., and presented by H.M. the King; both from Cuerdale find.

311. *Ov.*—RS RT VE IE. Between limbs of crosslet; three pellets in each angle.

Rev.—+EB IAI CEC IVI Cross in dotted circle.

AR 22·1 grs. Evans coll., from Cuerdale find.

312. *Ov.*—+SI EU ERT REX Three or four pellets between each group of letters. Patriarchal cross. From the same obverse die as B.M.C., No. 1046.

Rev.—+MIRABILIA FECIT Cross, pellet in two angles.

AR 20·4 grs. Presented by H.M. the King, from Cuerdale find.

REGNALD, 942-944.

313. Similar to B.M.C., Pl. XXVIII. 8.

Ov.—+RACIHO LT Crescent to r. of "hand" and four pellets above.

Rev.—+CIOI••ACII Three pellets to l. of monogram.

AR 18·7 grs. Evans coll., from Marsham sale, 1888, lot 106, and Wigan coll.

ANLAF QUARAN.

Coins of earlier period, c. 930?

314. Similar to B.M.C., Pl. XXIX. 1.

Ov.—+•NL••FCVN VN LZ• Shield.

Rev.—+FA•RH•ANHONETA• Standard.

AR 17·1 grs. Evans coll.

315. Similar to B.M.C., Pl. XXIX. 2.

Obv. — + ANLÆFCVNVNCL. Raven.

Rev. — + AÐELFERDMINETRÍ. Cross pattée.

AR 18.1 grs. Evans coll., found in Ireland, 1862 (*Num. Chron.*, 1863, p. 52, No. 46).

Coins of later period, 942-952?

316. Similar to B.M.C., Pl. XXIX. 6.

Obv. — + OIΓAEBE+oFo. Cross pattée.

Rev. — + FÆBM•ON•MONE. Cross pattée.

AR 19.8 grs. Evans coll., from Killyon
Manor find, 1876 (*Num. Chron.*, 1885,
p. 135).

ERIC, 947-954?

317. Similar to B.M.C., Pl. XXIX. 12.

Obv. — ERIC oREX: above and below a sword.
Three pellets at top and bottom of field.

Rev. — + INGELG.ÆRH. Cross pattée.

AR 21.1 grs. Evans coll., from Killyon
Manor find, 1876 (*Num. Chron.*, 1885,
p. 135).

UNCERTAIN COINS OF DANISH KINGS?

(Similar in type to B.M.C., Pl. XXIX. 8.)

318. *Obv.* — + ELL.·A.NGERHT. Cross pattée.

Rev. — BERN ART. above and below three crosses.
Three pellets at top and bottom of field.

AR 22.2 grs. Montague sale, 1896, lot
439 A.

319. *Obv.* — + ERNODÆRG. Cross pattée.

Rev. — ENURO EVRN above and below three crosses.
Three pellets at top and bottom of field.

AR 17.6 grs. Evans coll.

SAINT PETER COINAGE.

320. Similar to B.M.C., Pl. XXX. 1.

Obv.—**SCYPE TR II** Cross at sword-point, cross and two annulets above legend, two annulets below.

Rev.—**+EBꝝRꝝACEI** Annulet after each letter. Cross with pellet in each angle.

R 17.3 grs. Evans coll., from County Dublin find (*Num. Chron.*, 1883, p. 286).

321. *Obv.*—**SCIE TIII** From same die as B.M.C., No. 1161.

Rev.—**EB+P-ꝝC**

R 9.5 grs. Evans coll.

322. *Obv.*—**SJL TIII** Three pellets across field, one above and one below.

Rev.—**ECB+IRꝝC**

R 10.4 grs. Evans coll.

G. C. BROOKE.

VIII.

INDIAN COINS ACQUIRED BY THE BRITISH MUSEUM.

[SEE PLATE VIII.]

In preceding articles (*Numismatic Chronicle*, 1921, pp. 333-48; 1922, pp. 200-13), notes have been given of rare coins acquired by the British Museum since the publication of the *Catalogue of Coins of the Sultans of Delhi*. The present article deals with acquisitions to the series covered by the volume describing the coins of the Muhammadan States of India.

BENGAL.

Mughīth al-Dīn Yūzbak, A.D. 1246-58.

The coinage of this governor was not represented in the Museum when the *Catalogue* was published. The gap is now filled by a fine rupee from the Cunningham Collection similar to *Indian Museum Catalogue*, Vol. II, no. 6, with reverse margin:

هذا القرب بلکنوقی من خراج ارض بدن ونودیا فی رمضان
سنة ثلث وخمسين وستمائة

Lakhnautī : Ramazān 653. AR 1.15. Wt. 171.

Rukn al-Dīn Kai Kā'ūs (1291-1302) and *Shihāb al-Dīn Bughra Shāh* (1318) are no longer unrepresented in the Museum, but both specimens are in poor condition and add nothing to our knowledge of the series.

Ghiyāth al-Dīn Tughlak I and Nāṣir al-Dīn Ibrāhīm Shāh, A.D. 1323-5.

Obv.	Rev.
السلطان الاعظم	السلطان المظفر
غیاث الدین والدین	ناصر الدین والدین
ابو المظفر تغلق شاه	ابو المظفر ابراهيم شاه
السلطان	السلطان بن السلطان

Legends in double square within circle: no trace of marginal legend.

AR 1.15. Wt. 168.6.

This coin is distinctly of Bengal fabric, and in spite of the absence of a mint may safely be attributed to Lakhnautī. It must be a memento of Tughlak's visit to Bengal just before his death, when the ruler of Lakhnautī, Sultān Nāṣir al-Dīn came forth with great respect to pay homage to the Sultān (*Tarikh-i-Firuz Shahi* in Elliot-Dawson, III, p. 234). . . .

'Sultān Nāṣir al-Dīn had shown great respect and submission, so that the Sultan gave him a canopy and a baton, sent him back, and placed Lakhnautī under his rule' (ibid., p. 235).

Muhammad b. Tughlak and Nāṣir al-Dīn Ibrāhīm.

The next coin shows that the Sultan of Bengal renewed his fealty to Tughlak's successor.

Obv.	Rev.
السلطان الا	السلطان المظفر
عظم محمد شاه سلطان	ناصر الدین والدین
بن سلطان	ابو المظفر ابراهيم شاه

Legends in double square within circle: the coin apparently has no marginal legends.

AR 1.1. Wt. 167. [Pl. VIII. 2.]

Ghiyāth al-Dīn Bahādūr, restored 1325-32.

Obv.	Rev.
السلطان المعلم غياث الدين والدين أبو المظفر بهادر شاه السلطان ابن السلطان in circle.	خرب بامر الوانق بالله محمد بن تخلقشاه
	Margin between inner and outer circle.
	هذه السكّة بحضور سماركانو سنة ثمان وعشرين وسبعينية

Sonārgaon, 728 A.H. AV 9. Wt. 165. [Pl. VIII. 1.]

Obv. as preceding, but last line
السلطان بن سلطان
in double square.

Rev. as preceding, in double square in circle: no trace of marginal legend.

AV 1. Wt. 165.

These two coins in the joint names of Bahādūr and Muḥammad b. Tughlaq show that the former was completely restored to favour again after his deposition by Tughlaq.

Sikandar Shāh, A.D. 1358-89.

The Museum now has three gold coins of this Sultan: two are of the type of B.M.C. 32 in silver (I.M.C. II. 47).

Obv.	Rev.
الامام الاعظم ابو المجاهد سكندر شاه ابن الياس شاه السلطان	يعين خليفة الله ناصر امير المؤمنين خلد الله خلافته فيروزباد . . . (سبعينية)
	Margin

Firuzabād. AV 1. Wt. 167.5. [Pl. VIII. 3.]

Similar, no trace of mint or date. AV 1. Wt. 164.5.

The other is of the type of B.M.C. No. 37 (I.M.C. 52).

Obv. in circle.

يعين
خليفة الله ناصر
امير المؤمنين عوث
والمسالمين خلد
حلا فتنه

Rev. in eightfoil.

الواشق بتائيد
الرحمن ابو المجاهد
سكندر ابن الياس
شاہ السلطان

Four Imams around.

Traces of marginal legend:

A 1.1. [Pl. VIII. 4.]

Nāṣir al-Dīn Maḥmūd, A.D. 1442-59.

Obv.

Rev.

In circle.

ناصر الدنيا والدين
ابو المظفر محمود
شاہ السلطان

المؤيد
بتائيد الرحمن
خليفة الله

A 85. Wt. 165.6. [Pl. VIII. 5.]

Shams al-Dīn Muẓaffar, A.D. 1490-3.

Obv. in multifoil circle.

Kalima
خوازنة
٨٩٤

Rev.

شمس الدنيا
والدين ابو النصر
مظفر شاہ السلطان
خلد الله ملکه

Imams around.

وسلطانه
in multifoil.

Treasury, 896 A.H. A 1.05. Wt. 163.6. [Pl. VIII. 6.]

‘Alā al-Dīn Ḥusain, A.D. 1493-1518.

Obv.

حسين شاہ سلطان بن
سید اشرف للحسین
خلد ملکه وسلطانه
هزانہ ۹۰۷

Rev.

السلطان
العادل علا الدنيا
والدين ابو المظفر

Treasury, 907 A.H. A 8. Wt. 162.5. [Pl. VIII. 7.]

A new type in gold.

Nāṣir al-Dīn Nasrat, A.D. 1518-32.

<i>Obv.</i>	<i>Rev.</i>
السلطان بن السلطان ناصر الدنيا والدين أبو المظفر	نصرت شاه سلطان بن حسين شاه سلطان الحسيني خلد ملكه
In double circle with border ♦♦	As <i>obv.</i>
A.D. 75.	Wt. 160.

Ghiyāth al-Dīn Mahmūd, A.D. 1526-38.

<i>Obv.</i>	<i>Rev.</i>
السلطان بن السلطان غياث الدنيا والدين أبو المظفر محمود	شاه السلطان بن حسين شاه السلطان خلد الله ملكه السلطان خانه ٩٣٣
In small circle in centre شاھی	In small circle in centre شامھ
بدر	بدر

Treasury, 933 A.H. A.D. 8. Wt. 164.8. [Pl. VIII. 8.]

Ghiyāth al-Dīn Jalāl Shāh, A.D. 1560-3.

The coins of this ruler were unrepresented in the Catalogue. The Museum now has two specimens, of which the first is similar to I.M.C. II, No. 234, but is dated 968 A.H. The second is similar and is also dated on reverse left margin ٩٦٨, but has below the reverse the additional inscription in Nagari *Sri Jālāl Sāhi*.

JAUNPUR.

There is nothing in this series to add to Major Whittell's admirable monograph on the coins of the State (*J.A.S.B.*, 1922, N.S., No. xxxvi, 228), but we may here note the few acquisitions of importance since the Catalogue:

Shams al-Dīn Ibrāhīm, A.D. 1401-44.

1. Type of B.M.C. No. 223, but margin.

ضررت هذا الدينار في سنة ثلثين وثمانمائة

830 A.H. A.V. 85. Wt. 175.4 (Whittell, p. 26).

2. Tughra type. I.M.C. II, p. 208, No. 1, but margin.

ضررت هذا الدينار في سنة اثنين واربعين وثمانمائة

842 A.H. A.V. 178.5 (Whittell, p. 26).

Mahmūd Shāh b. Ibrāhīm Shāh, A.D. 1444-57.

I take this belated opportunity of noting that the copper coin attributed to this ruler in the B.M.C. *Muham. States*, Pl. ix, No. 264 is not a Jaunpur coin, but a coin of Mahmūd Shāh Khaljī of Malwa, of the Shādiābād mint, other specimens of which are correctly attributed in Nos. 345-57 (Pl. x).

Husain Shāh b. Mahmūd, A.D. 1458-76.

Tughra type. I.M.C. II, No. 110, Whittell, pp. 29-30.

ضررت . . . سنة اثنين و . . .

(87)2 A.H. A.V. 8. Wt. 183.4.

ضررت . . . وسبعين وتمائة

87(x) A.H. A.V. 8. Wt. 180.7.

MALWA.

Hoshang Shāh, A.D. 1405-32.

Obv.

Rev.

In double square

In circle

السلطان

ابو المجاهد

الاعظم حسام

هوشنگشاه

الدنيا والدين

السلطان

Around

. . . لا إله إلا الله و محمد

838 A.H. A.V. 9. Wt. 170. (W.K. No. 1.) [Pl. VIII. 9.]

Muhammad Shāh, A.D. 1432-6.

<i>Obv.</i>	<i>Rev.</i>
In double square.	In circle.
السلطان العظم تاج الدنيا والدين ابو المحايد	محمد شاه بن هوشنگشاه السلطان Around
	... باد سنة اربعين و ...
Shadiabad, 840 A.H. A 95. Wt. 168.5 (cf. I.M.C. II No. 15 = W.K. No. 6.)	

Similar in silver: *rev.* margin

صربت هذه السکة بحضورت شاد ...

Shadiabād. AR 1.1. Wt. 161.5

Mahmūd Shāh Khaljī, A.D. 1436-68.

<i>Obv.</i>	<i>Rev.</i>
السلطان الاعظم علا الدنيا والدين خلجی ابو المؤمن محمود شاه خلد الله خلافته	In circle سكندر الثاني يمين الخلافة امير المؤمنين
	Around
	صربت هذه السکة بحضورت شاديا باد سنة سبعين وثمان مائة

Shadiabād, 870 A.H. A 95. Wt. 169.5.

Obv. and *rev.* as B.M.C. No. 347, but in silver; date ٨٧٥ .

Square. AR 8. 875 A.H. Wt. 167.

<i>Obv.</i>	<i>Rev.</i>
B.M.C. No. 349.	B.M.C. No. 349.
Round. AR .75. Wt. 133. 846 A.H. Shadiabād. " AR .8. Wt. 138.9. 848 A.H. " " AR .75. Wt. 120.8. 84x A.H. "	

<i>Obv.</i>	<i>Rev.</i>
I.M.C. No. 18.	I.M.C. No. 18, but ٨٦٦
AH ٩٥. 866 A.H. AH 1.	

<i>Obv.</i>	<i>Rev.</i>
السلطان الا عظم علا الدنيا والدين	مُهَمَّود خلْجِي شَاه

Bill. .6.

Ghiyāth Shāh Khaljī, A.D. 1468–1500.

<i>Obv.</i>	<i>Rev.</i>
ابو الفتح	السلطان ابن السلطان ولـ
غياث شاه السلطاني الخلجي	عهد خليفة الزمان
صربت بدار الملك	رب العالمين
شادیباد ٨٦٦	

Shādiabād, 862 A.H. AH 95.

The date on this coin, apparently a duplicate of I.M.C., no 41, is puzzling.

GUJARAT.

Nāṣir al-Dīn Ahmad, A.D. 1410–43.

<i>Obv.</i>	<i>Rev.</i>
السلطان الاعظم	In square
ناصر الدنيا والدين	احمد شاه بن محمد
ابو الفتح	شاه بن مظفر
	شاه خلد خلافته
	Around
	في سنة اربع واربعين
	وثمانمائة

844 A.H. AR 1.2. Wt. 166. [Pl. VIII. 12.]

Kutb al-Dīn Aḥmad, A.D. 1451-8.

<i>Obv.</i>	<i>Rev.</i>
السلطان الاعظيم	احمد شاه بن محمد
قطب الدنيا والدين	شاه بن احمد شاه بن محمد
ابو المظفر	شاه بن مظفر شاه
- ٦ -	خلد خلافته
(8)6x A.H. AR 1. Wt. 174. [Pl. VIII. 10.]	

Mahmūd Shāh I, A.D. 1458-1511.

<i>Obv.</i>	<i>Rev.</i>
	In double square
الوثق بتاييد الرحمن	السلطان
ناصر الدنيا والدين ابو الفتح	محمود شاه بن محمد
	٩١٤
914 A.H. A.R. 85. Wt. 183.6.	

Bahādur Shāh, A.D. 1526-36.

<i>Obv.</i>	<i>Rev.</i>
السلطان شاه	بهادر شاه
العادل	بن مظفر شاه
٩٤٣	
in double sixfoil.	in double sixfoil.
943 A.H. AR .5. Wt. 35. [Pl. VIII. 14.]	

Muzaffar Shāh III, A.D. 1560-73.

<i>Obv.</i>	<i>Rev.</i>
الموليد بتاييد الرحمن	In double square
شمس الدنيا والدين	السلطان مظفر
ابو النصر	بن محمود شاه
٩٧٥	
975 A.H. A.R. 7. Wt. 185.	

Muzaffar Shāh III (second reign).

<i>Obv.</i>	<i>Rev.</i>
Kalima in double square with border of dots be- tween. Kalima in centre. Names of the Imams around.	Contained as <i>obv.</i> ابن محمود شاه مظفر شاه سلطان ۹۹۱ صرب... احمد آباد
Around	Around
Ahmadābād, 991 A.H. AR. 8. Wt. 172.	

SULTANS OF MADURA.

Ghiyāth al-Dīn Dāmghān Shāh, A.D. 1340-4.

<i>Obv.</i>	<i>Rev.</i>
غياث الدين	شاه
والدين	دامغان
١٣٤٤	محمد

744 A.H. AR. 65. Wt. 92. [Pl. VIII. 13.]

The only other known gold coin of a Sultan of Madura appears to be that of Shams al-Din 'Adil in Mr. Nelson Wright's Collection (*Proc. Ind. Num. Soc.*, 1923, p. 6).

BAHMANIS.

No series has been so much improved since the publication of the Catalogue as the Bahmani. The Museum now contains most of the coins described by Dr. Codrington in *Num. Chron.*, 1898, pp. 259 ff. Among the rarer acquisitions are the following:

Nāṣir al-Dīn Ismā'īl.

Both types of copper coins, *Num. Chron.*, 1898, p. 262, Nos. 1 and 2.

Hasan Gangū, A.D. 1347-58.

<i>Obv.</i>	<i>Rev.</i>
In circle	In double square in circle

السلطان الاعظم
علا الدين والدين
ابو المظفر بهمن شاه
السلطان

سكندر الثاني
يemin للخلافة ناصر
امير المؤمنين
٧٨٨

758 A.H. AR 1.05. Wt. 164.5.

<i>Obv.</i>	<i>Rev.</i>
السلطان	ابو المظفر
الاعظم علا	بهمن شاه
....	السلطان

AR .4. Wt. 16.

The Museum now has specimens of the copper coin,
Num. Chron., 1898, Pl. xvii. 4, but not of 3.

Muhammad Shāh, A.D. 1358-1375.

<i>Obv.</i>	<i>Rev.</i>
سلطان	بهمى
العهد والزمان	حسن
الخاتم ملة رسول	محمد
الرحمن	صرب هذا الدينار في حضرت احسنabad سنه ثلث وستين وسبعمايه

Ahsanābād, 763 A.H. AR .8. Wt. 197.5 (Da Cunha, *Num. Chron.*, 1885, Pl. xli. 24).

In silver the British Museum now has the following dates: 760, 761, 762, 765, 774, 775, 776 of the type of Gibbs, *Num. Chron.*, 1881, No. 3, and specimens of the smaller, *Num. Chron.*, 1898, p. 264, No. 2, and of the copper 1, 2, and 4.

Mujāhid Shāh, A.D. 1376-8.

At the Codrington sale in 1921 the Museum acquired the gold coin described in *Num. Chron.*, 1898, p. 264, Pl. xvii. 8.

Ahsanābād, 774 A.H. AR 1. Wt. 192.

From the same sale came a silver coin of the type of Gibbs, *Num. Chron.*, 1881, Pl. v. 5.

<i>Obr.</i>	<i>Rev.</i>
السلطان الاعظم	In square
علا الدنيا والدين	المؤيد بننصر الله
ابو المغازي مجاهد	يمين للطيبة ناصر
شاه السلطان	امير المؤمنين
	In margin
	خرب ... احسناباد ٧٧٨

Ahsanābād, 778 A.H. AR 1.05. Wt. 157.

and the copper coins, *Num. Chron.*, 1898, Pl. xvii. 9, p. 265.

Muhammad Shāh, A.D. 1378-97.

<i>Obr.</i>	<i>Rev.</i>
المقيم باوامر الرحمن	الناصب لآلية الاحسان
المسترشد بالله المنان	ابو المظفر محمد شاه السلطان
	٧٩٤

796 A.H. AR .95. Wt. 168.7. [Pl. VIII. 11.]

The above legend forms a quatrain rhyming in ان.

In silver (type of I.M.C., vol. II, No. 2) the Museum now has the following dates: 794, 795, 796, 797, 798, and 799.

Shams al-Dīn Dā'ūd, A.D. 1397-8.

Only copper coins are so far known of this ruler and are now represented in the Museum by specimens of the type of *Num. Chron.*, 1898, Pl. xvii. 10.

Firuz Shāh, A.D. 1397–1422.

Obv.

اشهد ان لا
الله الا الله وحده
لا شريك له واهشهد
ان محمد عبد
الظفر فيروز
ورسوله

Around rev. ضرب هذا الدينار بخمرة دار

الملك احسناباد سنة ثمانمائة

Ahsanābād, 800 A.H. A 1. Wt. 195 (*Num. Chron.*, 1881,
Pl. v. 8).

The Museum now has the following dates of this ruler's silver coins (B.M.C. No. 449), 800, 801, 804, 805, 807, 815, 817, 818, 819, 820, 822, 824, 825.

Aḥmad I, A.D. 1422–35.

The rare silver coins of this Sultan (*Num. Chron.*, 1881, Pl. v. 13) are now represented in the Museum by specimens dated 828 and 829, both of Ahsanābād Mint.

The large number of copper coins of type *Num. Chron.*, 1898, Pl. xvii. 12, now available, make it quite certain that their obverse legend, queried by Dr. Codrington (p. 267) and I.M.C. vol. II, No. 14, is

Obv.

المولى بنصر الله
الملك للخان

Aḥmad Shāh II, A.D. 1435–57.

Obv.

سلطان
قوى الاسلام
مع الفضل والعدل
والاحسان

Rev.

In square

ابو المظفر علاء
الدنيا والدين
احمد شاه بن احمد
شاه السلطان

88^o below

853 A.H. A 75. Wt. 166.5 (cf. I.M.C., II, No. 18).

The extensive copper coinage of this Sultan is now well represented in the Museum from the Bhagvanlal, Codrington, and Havelock Collections.

Humāyūn, A.D. 1451-61.

The Museum now has a gold coin of the silver type (Cat. No. 471), dated 862 A.H. (Wt. 168), and another with date illegible; a good series of copper has also been added.

Nizām Shāh, A.D. 1461-63.

This Sultan's varied copper coinage is now well represented in the Museum.

Muhammad Shāh III, A.D. 1463-82.

Ov.

Rev.

المعتصم بالله	In square
ابو المظفر شمس	
الدنيا والدين	

Around

خرب حضرت احسنیاباد ٨٦٨

Ahsanābād	868 A.H.	A·75.	Wt. 170.3.
Similar	„	A·75.	Wt. 170.4.
Similar	„	A·75.	Wt. 165.
Similar	„	A·1.	Wt. 168.
Similar	„	A·95.	Wt. 166.7.
Similar	„	A·9.	Wt. 168.7.

Mahmūd Shāh III, A.D. 1482-1518.

Ov.

Rev.

الملوك على	In square
الله القوى الغنى	
السلطان الاعظم	

٨٩٩

895 A.H.	A·95.	Wt. 169.6.
898 A.H.	A·9.	Wt. 169.2.
89x A.H.	A·95.	Wt. 167.

Wali Allāh, A.D. 1523-5.

Kalīm Allāh, A.D. 1525.

The coins of these two rulers were unrepresented in the Catalogue. The Museum now has a fine series of copper coins, including all the varieties described by Codrington, *Num. Chron.*, 1898, pp. 271-3.

J. ALLAN.

OBITUARY.

ERNEST BABELON.

PARMI les devoirs pénibles qui incombent aux érudits, un des plus douloureux est celui d'adresser le dernier salut à un ami, à un collaborateur aux côtés de qui on a travaillé pendant de longues années. Ce devoir, j'ai été prié de le remplir envers Ernest Babelon, mort à Paris, le 3 janvier 1924, à l'âge de 69 ans.

Membre honoraire de la Royal Numismatic Society, dès 1891, il avait été lauréat de la médaille de cette grande et ancienne Société, en 1899. A cette époque, Ernest Babelon avait déjà publié sa *Description des monnaies de la République romaine* en deux volumes (1887) ; le *Catalogue de monnaies des rois de Syrie* (1890) ; celui des *Perse Achéménides, satrapes, etc.* (1893), de la Bibliothèque Nationale de France ; l'*Inventaire de la Collection Waddington* (1897-8) ; deux volumes de *Mélanges Numismatiques*, qui furent suivis de deux autres, plus tard ; et enfin beaucoup d'articles épars dans bien des revues de la France et des autres pays.

Avec la belle part qu'il faisait à la *Revue Numismatique*, dont il était codirecteur depuis 1883, son œuvre numismatique était donc considérable. Elle ne suffisait pas à épuiser son activité. Il termina plusieurs travaux de François Lenormant, collabora au grand *Dictionnaire des Antiquités grecques et romaines*, dirigé par Daremberg et Saglio, et assuma encore, pendant plusieurs années, la direction de la *Gazette archéologique*.

Un tel labeur avait été récompensé successivement par la Société des Antiquaires de France, qui l'élit membre résidant en 1886, par l'Académie des Inscriptions et Belles-Lettres de l'Institut de France, où il entra en 1897. Il fit encore partie de beaucoup d'autres compagnies et contribua à en fonder, comme l'importante Société française des fouilles archéologiques.

Je laisse de côté ici tous ses importants travaux sur les camées, pierres gravées, trésors d'argenterie et autres objets du Cabinet de France. Je rappellerai seulement le précieux *Traité des monnaies grecques et romaines* qu'il avait commencé

en 1901, avec l'espoir de le mener à bien et dont il n'a publié que quatre volumes, accompagnés d'albums de planches. Espérons que son fils, M. Jean Babelon, bibliothécaire au Cabinet de France, pourra mettre au point les manuscrits de son regretté père.

Ernest Babelon a été un des plus grands numismates, non seulement de la France, mais du Monde. Il n'est pas nécessaire de lui consacrer un long éloge funèbre et d'énumérer toutes ses œuvres: Son nom vivra tant que des hommes chercheront à connaître les monnaies anciennes et les sciences qui sont inséparables de cette étude.

ADRIEN BLANCHET,
Membre de l'Institut.

MISCELLANEA.

DEBASED ENGLISH COINAGE OF HENRY VIII.

In *Num. Chron.*, 1923, p. 268, I referred to the publication by Mr. Symonds, in *Brit. Num. Journ.*, vol. X, p. 166, of the analysis of a groat of Henry VIII, of which the identification was no longer certain. It was believed to be the earliest known groat with the full-face portrait, that is to say, the coin combining the full-face portrait with the reverse peculiar to the second (1526-1542) coinage, which has a small saltire at the end of each limb of the cross. Mr. Symonds has recently found the remains of the coin analysed, and has very kindly sent it to me. It proves that its supposed identification was correct, and thus establishes an important piece of evidence in connexion with the problem of the 10 oz. silver coinage, which was ordered by indenture of 1542, but apparently never put into circulation.

G. C. B.

REVIEWS.

Catalogue of the McClean Collection of Greek Coins. By S. W. GROSE, M.A. Vol. i: Western Europe, Magna Graecia, Sicily. 1380 pp. + 10 pp. Introduction and 112 Plates. Cambridge: at the University Press. 1923.

THOSE who have studied the records of London coin sales during the nineties and early nineteen hundreds cannot have failed to notice the frequent appearance of a certain Mr. Money, and to have envied the purchases credited to his name. It was the *nom de guerre* of Frank McClean, and in this long-expected volume we have the catalogue of the first part of the collection founded by him, augmented and enriched by his son, J. R. McClean, and then presented by the latter to his University.

As far at least as concerns Magna Graecia and Sicily, the cabinet is in the very first rank after the great national collections. The present volume contains the descriptions of 3,066 coins, most of them illustrated. For the same districts the British Museum contains 7,000 odd, and the Berlin cabinet about 11,000 pieces. But even so, this is hardly a fair criterion of relative importance. It was J. R. McClean's purpose to form long series in the periods of greater historical and artistic interest. Thus, among the Greek mints of S. Italy whose activities ceased in the early third century, there are actually more coins of Thurium (including a remarkable series of distaters) than appear in the British Museum Catalogue, and the general numerical ratio is approximately as 3 to 4, with a relatively higher proportion of capital coins—staters and the like.

A special feature, which will be welcome alike to the student and the collector, is the large number of small copper coins of the lesser Italian and Sicilian towns figured in the plates. Beside the Weber Collection the present volume affords the only comprehensive photographic survey of their interesting and often puzzling varieties.

Mr. Grose has done his work carefully and well. Readers of this journal will already be familiar with his studies on Croton, the light-weight coinage of Heraclea, and other

subjects which suggested themselves in the course of his labours. The indexes are numerous and full, and include two which should find a place in any future general catalogue of this scope—an index of monograms and signs of doubtful significance, and an index of countermarked and restruck coins.

One wishes perhaps that with this wealth of material before him the author had not adhered so rigidly in most cases to the elastic and sometimes rather old-fashioned period-dating of the *Historia Numorum*. At Thurium, for example, all the dictators fall under the rubric 400–281. At Metapontum, 350–330 is the date given to the Leucippus type which serves to divide the series of staters with heads on the obverse into an earlier ("before 400–350") and a later ("330–300") group, whereas 330–315 is probably nearer the truth. Nor is full use made of the criteria which the reverses of the Leucippus pieces afford, in distributing the other coins; for example, the large, spaced lettering, with sometimes only two or three, sometimes five to seven, letters of the name, would seem to show (entirely apart from the earlier style of the obverse) that most, if not all, of the numbers 3–18 on Plate 34 fall to the earlier rather than the later period. Again, at Selinus "Before 466" is a little sketchy for the earliest issues with incuse reverse, and 500 is still taken for the initial date for the coinage of Syracuse.

But these are small points; the main thing is that we have here the first section of the McClean Collection made available for study in the fullest sense. We understand that Mr. Grose is actually engaged on the second portion of the catalogue, and we can only wish him as good success with it as he has achieved over the first. We suppose there is no hope that the coins of the corresponding section of the Leake Collection might be included in the forthcoming volume?

E. S. G. R.

The Roman Imperial Coinage. Vol. I. Augustus to Vitellius.
By HAROLD MATTINGLY, M.A., and the Rev. E. A.
SYDENHAM, M.A. London: Spink & Son, Ltd., 1923.
pp. 279, 16 Plates.

THIS book marks the distinct advance in the Science of Numismatics which has taken place since Cohen wrote his

great work on the subject. The classification of the coins according to their mints and dates, which is now adopted, is essential to intelligent study. There will of course be those who regret the departure from the simplicity of the alphabetical arrangement adopted by Cohen, and to them it may be answered that the excellent indexes, covering some fifty pages, which have been prepared by the present authors render it easy to turn to the description of any coin to which reference may be required. Those who take a deeper interest in their coins than that of the mere collector will find the information, and particularly the scientific classification, which they need. Historians will discover in great detail not only the effect of events on the coinage, but the testimony which the coinage bears to events. On one point will both the collector and the student find some ground for complaint; the authors have made no attempt to indicate the relative degree of rarity of the coins described. In this matter the unscientific, though very human, desire of the collector for guidance as to the value of his collection and the prices which he should pay for specimens is most affected, but the student is not unconcerned, for sound deductions as to such matters, as the length of a reign, the extent of the power of a ruler, the importance of mint cities, the periods during which mints were at work, and so forth can often be drawn from a knowledge of relative rarity.

No doubt the scope of such a work must be somewhat limited if it is to be a common hand-book, published at a price within the reach of all students, and not merely a library book of reference.

It will appear perhaps somewhat ungenerous to make this small complaint when we consider the mass of information which is compressed into so moderate sized a volume, and the number of difficulties, hitherto troublesome to students, which are dealt with concisely, but with lucidity and authority—an authority which is by no means weakened by the willingness of the authors to admit that there are yet numerous problems which they cannot solve.

It was a favourite saying of the late Sir Henry Howorth that it will be an evil day for numismatics when there are no more problems to be solved. This work has not brought us to that point, but it may well prove a basis for the research work of the future and indicate its direction.

The book commences with a chapter which deals with the history of the period, and, seeing that that history is fairly certain and well known, this chapter, supplemented

as it is by subsequent head notes to the individual reigns, appears to be adequate. It may be necessary to treat this side of the subject somewhat more fully in later volumes dealing with the decadent years of the Empire, as to which less precise information is available. The scheme and story of the imperial coinage, its gradual changes, and the methods of its production are well told. An explanation of the development of the sestertius from the value of two and a half asses, which its name implies, to its more permanent position as a piece of four asses might perhaps have been added. The writer remembers having suffered much doubt on this point. The chapter on counter-marks is suggestive and should encourage the study of this still obscure question.

The note on comparative value of Greek and Roman art is sound, though it perhaps treats the portraits of the Antonine emperors somewhat severely. They lack, it is true, the imaginative treatment of earlier days, but they vividly portray the characters of the men. The grave, dignified portraits of Antoninus Pius are worthy of the character of the noblest of Roman emperors, while those of Marcus Aurelius indicate such personal characteristics as we may gather from his own writings.

The section which deals with the development and decline of the monetary system is perhaps the clearest statement of this difficult subject that has yet been published, though it may be that the history of that puzzling coin, the antoninianus, will require some revision when the authors treat of the period during which it formed the principal denomination in circulation.

The book would be incomplete without its chapter on forgeries, a subject of equal importance to the student and the collector.

The chapters dealing with the history and coinage of the individual reigns are full of useful facts, and are supplemented by the foot-notes to the well-arranged lists of coins. Foot-notes to text are to many minds an annoyance, and an indication of carelessness in the compilation of the text: our authors have used them with much restraint in their earlier pages, and with great effect in the lists of coins, where they are entirely in order.

The system on which those lists are constructed is not of course so simple as that of Cohen, but it is altogether superior from the point of view of the scientific numismatist, and a little practice in the arrangement of a collection according to it will show that it is easy to follow. The increase of knowledge and interest which will result from

its use will fully compensate the student for his slight preliminary trouble. The descriptions of the coins, though brief, are adequate and the plates are well produced. The specimens illustrated have been selected with much care from coins in excellent preservation, a point of importance, for many current errors have arisen from the examination of imperfect specimens.

It would be easy to enter into discussion on some of the tentative explanations of difficulties which the book contains, did space permit. They are not all correct, but it may safely be said that they are in almost all cases possible, and the far too common fault of forcing evidence to fit theory is avoided.

The book will remain a standard work on Roman Imperial Coinage for many years to come, during which we shall have the scientific pleasure of testing the authors' theories one by one. The more definite pronouncements will meet with but little challenge.

It is satisfactory to find English names on the title-page of a numismatic work which, if completed as it has been begun, will be of great importance.

The authors have proved themselves to be expert numismatists and may be congratulated on having made a happy commencement of their labours.

P. H. W.

Die Alexandrinischen Münzen: Grundlegung einer Alexandrinischen Kaisergeschichte. Von JOSEPH VOGT, Dr. Phil. 2 vols. in one. Stuttgart. 1924.

THE fact that the Alexandrian coinage of the Empire is often sadly neglected cannot in any way diminish its historical value. The coins are plentiful and artistically unattractive; but their evidential quality stands high, and we can only neglect them at our peril. All students of the Roman Empire, then, should feel grateful to Dr. Vogt for having devoted so much labour and thought to the proper annotation of the series. That there is room for another publication on this subject, thirty-two years after the publication of the British Museum Catalogue, twenty-three years after that of Dattari's great Corpus, will hardly be questioned; and in many points, if not in all, Dr. Vogt has striven manfully and successfully to offer us what has hitherto been missing.

Volume I contains a short but useful bibliography (we miss, however, any reference to J. G. Milne, who is quoted frequently in the text), a short general introduction, finally a long and detailed commentary on the coinage, reign by reign, dealing with such points as dates, legends, portraits, mint history, and types. Here and there a valuable excursus throws light on some general problem that arises—e. g. on the coins of the Nomes or the cult of Demeter at Alexandria. The volume ends with five plates, four showing interesting reverse types, one showing a sphinx, from a relief in Berlin. Volume II contains the list of coins, arranged, reign by reign, in chronological order, with very brief descriptions and references to the chief collections and catalogues.

There are one or two obvious defects in this plan, which, however, are probably due entirely to difficult conditions and should be readily condoned. The illustrations are obviously quite inadequate, and the descriptions of coins, though easy to survey, are insufficient for many purposes. No distinction is made between bronze coins of different sizes. Here, however, we should gratefully accept half a loaf as much better than no bread.

We pass on to the parts of the work where the author has enjoyed reasonable freedom of choice. The general introduction is disappointingly short. There can, of course, be no hard and fast line drawn between what belongs to the general and what to the more special sections. Dr. Vogt has, it seems to us, at times overloaded his notes on reigns with matter that might well have gone to enrich his general introduction.

Of the many questions arising out of the discussions on coins we will select three for criticism—chronology, metrology, interpretation of types. It is for dating that the Alexandrian series is above all important, as it supplies us with invaluable evidence for dating many undated imperial issues. Dr. Vogt is fully alive to the importance of chronology and constantly calls our attention to its lessons. For the dating of the coins of Domitia, Sabina, Faustina I and II—to name only a few examples—the Alexandrian evidence is of the first importance. On the vexed question of the tribunician dates of Nero Dr. Vogt appears to be unfortunate in his note (p. 34 f., n. 137). Suetonius places the proclamation of the freedom of Greece at the end of Nero's visit. With this may agree the date given by the decree of Akraiphia (TR. P. XIII), if we reckon it by the coins, and not by the one inscription that gives TR. P. VII in place of TR. P. VI on January 1st, A.D. 60. Whether the

legend "Adlo. Aug." on coins of Corinth refers to the proclamation is, at least, doubtful. Dr. Vogt concludes his note with the observation, "at any rate the evidence of the inscriptions and coins is to be preferred to this confused passage in Suetonius". Certainly—but he himself has really taken little notice of the coin evidence himself. Another critical point is the Alexandrian dating of Trebonianus Gallus and Volusian, both of whom have coins of year 3 and of no other year. The absence of coins of year 1, when an Emperor's accession falls near the end of the Egyptian year is common enough; the complete gap of over a year left here is another matter and requires explanation. Dr. Vogt is too readily satisfied with Dattari's suggestion that the mint was preparing a reform in the coinage: there is really no sort of trace of one. Why should not year 3 of Gallus and Volusian be the third year of *Trajan Decius*, continued by them as his successors, just as Commodus had continued the dating of Marcus Aurelius and Caracalla that of Severus? Both Gallus and Volusian show a date "TR. P. IIII" on Roman coins of the year 253, which might be the date of Trajan Decius, reckoned from his date of accession (249, probably in September), but which defies interpretation on any ordinary lines. In this period Dr. Vogt has closely followed an important article by Stein in *Arch. Pap.* vii. 40. Unfortunately Stein, in his anxiety to get rid of a discordance in the dates of Gallienus, has obscured the undoubted fact that we find two reckonings of his Alexandrian years, one placing his first year in 252/253, the other in 253/254. It seems very probable that the earlier reckoning is the official one of the coins: we should thus have Gallus and Volusian, year 3 (of Trajan Decius) 251/252, Aemilian year 2, 252/253, Gallienus year 1, 252/253: Aemilian would be recognized before the end of August 252, but would not strike coins till after it. On the interesting question of the exact date of the introduction of the follis at Alexandria Dr. Vogt gives us a valuable discussion, and makes out a good case for dating it as early as 293 to 294.

Alexandrian metrology does not escape the general fate of metrologies: it is a difficult, obscure, and thankless subject. Dr. Vogt's treatment of it must even so cause dissatisfaction. He has quoted Dattari's results, almost without criticism—a dangerous proceeding in any case, and most dangerous when the authority followed is one so ingenious, so original, and so prejudiced as Dattari. With all respect to the great services of the late scholar to numismatics,

it is necessary to insist that his metrological results seem to many scholars to rest on no sound foundation. In this series Dattari would have us believe that, as the billon tetradrachm fell in weight and fineness, it was reduced in value first to two, then to one drachm. But this reduction in nominal value is far less than the loss in intrinsic value. And as the Roman denarius, with which the Alexandrian tetradrachm was in the Early Empire equated, came to denote a copper and not a silver coin during the third century, because it was struck in increasingly debased metal, there is good reason *a priori* for supposing a similar history of the tetradrachm. There is really no justification for omitting this point of view without discussion.

It is pleasant to turn from fault-finding to accord very hearty praise to what is really the individual and valuable part of Dr. Vogt's work—the able and convincing view of policy which he develops and the illuminating notes on many details of type. The discussion of the general tendencies of the mint during its palmy period in the earlier second century is excellent; so too is the discussion of native Egyptian and Graeco-Roman divinities and of such types as "Nilus" and "Euthenia". The reverse "Pronoia" ("Providentia") is very aptly referred to the provision for the succession to the throne, e.g. by Hadrian when he adopted Antoninus Pius. It would be interesting to see how far "Elpis", like the Roman "Spes", represents a similar idea, from the point of view of the heir. Where so many types are discussed in detail, occasional doubts as to interpretation are bound to arise. Has the type "Fortuna Augusti" any reference to the beginning of a campaign (p. 49, l. 19 ff.)? Is the "Victory with a trophy", which adorned the ancient gem found, according to Suetonius, under Galba in Spain, really represented by a Roma holding Victory and trophy (p. 40, l. 4 ff.)? These, however, are small points and should not be overstressed.

To sum up. Dr. Vogt has done a valuable piece of work that badly needed doing. He has brought home to us again the importance of having our eyes and ears open to every class of evidence if we would gain a clear knowledge of the Roman Empire, and has at the same time made one important class far more accessible to us than it has hitherto been. It is devoutly to be hoped that the reception given to Dr. Vogt's book will be warm enough to encourage him to pursue his studies in the numismatic history of the early Empire.

H. M.

Die Medaillen der Italienischen Renaissance. VON GEORG HABICH. Deutsche Verlags-Anstalt, Stuttgart und Berlin. Pp. xii + 168. 100 Plates. £3 10s.

DR. HABICH's study of the Italian Renaissance medals is a worthy successor to the works of Friedländer and Fabriézy. It is a welcome omen that the pursuit of the subject, which had somewhat slackened of late in Germany, as in most other countries, will revive. Dr. Habich proceeds, as he explains in the preface, on a new principle; it is not so much the geographical distribution of the medals according to schools as the inner connexion between them that he tries to trace, without too great attention to time and place of production. Those of us who prefer the old plan will none the less welcome this departure, since what Dr. Habich is able to establish in the way of "inner connexion" can only be useful to us in our own researches.

An introduction deals with general matters; here will be found some suggestive observations on the use of the profile and its appropriateness to the medallic art. On the subject of technique, there is an interesting but somewhat puzzling passage on the method of working in negative or reverse (*Tiefschnitt*). With all Dr. Habich's remarks on the advantages of this method most of us will be in entire agreement. But he does not give us any proof that the method was employed by the Italian medallists. Wax models in positive have been preserved, though it is true that they are nearly all of sixteenth century or later date. But of such negative forms (which would have a greater chance of preservation, seeing that they would be in plaster, stucco, or clay, instead of the much more fragile wax), can Dr. Habich produce a single example from an Italian hand? Of course, every one will admit that moulds once made were worked on and improved in details, and that frequently the inscription was first added at this stage.

From the descriptive portion of the book I select a few points on which comments occur to me. M. Victor Tourneur has recently shown that the reading *απολιτις* on the medal of Heraclius (p. 26) is correct.¹ In his account of Pisanello,

¹ I had suggested the reading *απολιτις* for *ἀπολείπεις*, and referred it to the waning of the moon. Accepting M. Tourneur's reading, I cannot accept his interpretation of it as *ἀπολύνεις* = *ἀπολύεις*, "thou deliverest". It is incredible that *τὸν σταυρόν* should be left to be understood; not to mention the awkwardness of reading the last word, placed as it is by itself, continuously

Dr. Habich is conservative. Ignoring de Foville's illuminating suggestion that the medal of Gianfrancesco Gonzaga is early, about 1439, he places it alongside of the medal of Ludovico. The medals of Niccolò III and the two medals with the artist's portrait are all accepted as from Pisanello's own hand. These are, to my feeling, slight flaws in an otherwise very good presentation of Pisanello's work. In the account of Amadeo da Milano the specimen of the medal of Leonello d'Este chosen for illustration (p. 48) is misleading, since the reverse with Leda and the swan is not contemporary. The puzzling reverse (generally called Judgement of Solomon) on a medal by Pietro da Milano is explained as the court of Bar le Duc (p. 51). But the medal is dated 1462, and René's court was not there in that year. The criticism of Sperandio (pp. 53-56) is weighty and judicious. The two people playing chess on the medal of Pepoli are not Apollo and Mercury, but the philosopher Xerxes or Philometor and King Evilmerodach, as the story is told in Jacobus de Cessolis, *de ludo scaccorum*. And the medal of Ercole I at Venice, with the shower of diamonds on the reverse, is not unsigned. On Francesco di Giorgio (pp. 65, 66), Dr. Habich has an interesting theory. He has brought together a group of medals: Alfonso of Calabria (the Poggio Imperiale piece of 1479), the Sienese Antonio Spannocchi, the Spaniard Giovanni Mendoza, and others, and he attributes them all to Francesco di Giorgio. He might have added a medal of Don Federigo, son of Ferrante I (Arm. II. 59. 3, on which Arm. II. 59. 2 seems to have been based by an inferior hand). Every one will admit that these belong to one and the same group. I am less certain that the medals of the Sienese Borghesi and Petrucci and Ambrogio Spannocchi belong to the same master, and as to the Lorenzo Zane it seems to me altogether out of the picture. Since Francesco was a Sienese and served Alfonso (painting for him a picture of his victory

with the circular legend. Further, M. Tourneur's interpretation sacrifices the neat antithesis between the two inscriptions in the field. Just as *illumina vultum, &c.*, is spoken by Heraclius to God, whose rays shine upon him, so *ἀπολύεις* is spoken by him to Heathenism, whose crescent is sinking into darkness. *'Απολύεις* (admitting it to be the equivalent of *ἀπολύειν*) therefore means "thou comest to an end, thou diest". That is a perfectly well-attested sense of *ἀπολύειν*, whereas I do not find the sense which M. Tourneur has given to it recorded as a Byzantine usage in Sophocles' Lexicon.

at Poggio Imperiale), he might well have made a series of medals of Sienese and Neapolitans. I had assigned to Francesco the large unfinished medal of Federigo with Bellerophon and Chimaera, or rather St. George and the Dragon, on the reverse, which shows remarkable affinities with certain reliefs attributed independently to Francesco.² It does not follow that, if Dr. Habich is right, then I am wrong in my attribution. It is interesting to note that recently Comm. Venturi, who cannot speak too highly of the medal, has made it one of the chief features of the monument that he has built up to Francesco di Giorgio. (A most ambitious piece of architecture; one wonders how long it will stand.) Now comes Dr. Habich, describing the portrait as "befremdend und stillos", and even inclining to think it false.³ It is curious to find that he regards the reverse as copied from the plaquettes with the same subject. But if those plaquettes are examined, their smaller internal measurements show that they represent a later stage than the reverse of the medal.⁴ I find Dr. Habich's attribution

² Schubring's attribution of the reliefs to Francesco was not based, as Dr. Habich states, on the medal; but he at once accepted the medal as a confirmation of his view.

³ It was apparently M. Gustave Dreyfus who first suspected it.

⁴ See *Burlington Magazine*, XVII (1910), p. 144, note 10. Geh. v. Bode (*Studien über Leonardo da Vinci*, 1921, p. 56) has apparently not understood my point when he quotes me as saying that the reverse of the medal is "ein paar Millimeter grösser" than the three plaquettes. Nothing can be based on the measurement of the diameter of the medal; it is the internal measurements which count. The fact that the plaquettes were shaped for insertion in a sword-handle would not affect this point. Dr. Bode finds it surprising that I should accept Vasari's statement that Francesco di Giorgio made a medal as a strict proof that he did so. Clearly I did nothing of the kind, but merely regarded it as confirmatory evidence of an attribution based on other grounds. As I have mentioned Geh. v. Bode in this connexion, I take the opportunity of correcting another misapprehension under which he, like most of my German colleagues, seems to be labouring. The chapter on German Medals in a recent work of mine begins by quoting from Sir Charles Holmes a severe remark about German art. But I go on to say that, "sweeping as this criticism may seem, it is well to bear it in mind as a corrective to the enthusiasm which many students and collectors of German medals feel and express". In other words, though I say that the criticism is useful as a cor-

to Francesco di Giorgio extremely attractive, and can even help his argument by means of the medal of Guidubaldo I as a boy (Armand III. 180 J), which has certain vague resemblances to the group he has brought together, and which would suggest that the artist who made the medals of Sienese and Neapolitans also worked, as Francesco did, for Urbino. Guidubaldo is here so young that this portrait cannot be much later than his accession, when Francesco was either going or already gone from Urbino. As I said above, acceptance of Dr. Habich's theory in whole or part does not exclude acceptance of mine. I see in the treatment of the features—especially the nostrils, eyebrows, and chin—considerable resemblances between the medals of the Duke and of Jacopo Petrucci; and both have the same slightly quizzical expression. The Petrucci is a fine portrait; the Borghese grotesquely bad; but Francesco di Giorgio was the most unequal and varied of artists. Pending further light on the question, I feel that Dr. Habich's theory, in its positive part, holds the field.

To the group of medals attributed to Adriano Fiorentino Dr. Habich is able to add that of "Comptate Neapolitanus" (i.e. Pietro Compatre, the friend of Pontano and Sannazaro, who died in 1509). To the same group, we may observe, belongs a beautiful portrait of a boy in the Dreyfus Collection, on which the evidently false inscription "Sigismundo

rective, I imply that it is exaggerated and not to be accepted in its entirety. If you find strychnine useful as a tonic, it does not follow that you recommend people to live on it. In the very suggestive review of Dr. Habich's book in the *Zeitschrift für Numismatik* which has just come to hand, Geh. v. Bode—like others before him—writes as if the offending words were my own, and puts them down to war-fever. The date of the book I was quoting from was 1913; my own views on the general position of the German medal in the hierarchy of art were formed long before that. They were often expressed verbally to friends; one, of German birth, once accused me of "patriotism" for preferring an Italian to a German medal! For a moment he thought I must be an Italian to take such a view. Thus much I admit, that, had it not been for the war, I should perhaps have expressed myself somewhat differently; but the meaning would have been the same. That I am behind none in my admiration of the beauty and dignity of some German medals any one who reads through the chapter will agree; but that unfortunate quotation seems to have choked off some of my readers.

Scotto magno militi anno Theogoniae MCCV" has been incised (Armand III, p. 151 L). Incidentally it may be mentioned that Angelo Cato was bishop of Vienne, not Vicenza (p. 74). Under Antico the medals of Magdalena Mantuana are dealt with; but the statement that she was identical with the daughter of Federigo I (not III) Gonzaga and wife of Giovanni Sforza is hardly borne out by a comparison with Melioli's portrait of the latter lady.

In connexion with Giancristoforo Romano, the gold specimen at Vienna of the medal of Isabella d'Este is put in its proper place, though the amateur will doubtless continue to regard it as the finest specimen in existence (p. 91). On this page the author accepts the attribution of the struck medals of Civita Vecchia, Justitia, &c., to Giancristoforo Romano as quite probable; on p. 101, writing about Francia, to whom they used to be given, he inclines to revert to the old view. Francia is one of those men famous in the greater arts on whose altars old critics were wont to pile attributions of metallic work; it takes a long time to clear them. On p. 118, under Domenico di Polo, there seems to be some confusion; of the medals figured on Pl. lxxxii, No. 3 is rather by Francesco del Prato, and No. 4, I think, by Galeotto; and on Pl. lxxx, No. 7 can hardly be by Poggini.

Opinion has gradually been working round towards the deprivation of Cellini of the honour of having made the fine cast medal of Cardinal Bembo. Dr. Habich now, though he does not speak outright against Cellini's authorship, is evidently inclined to regard this and the medals which go with it as too good for Cellini (in which every good judge will agree with him) and perhaps of Milanese origin. On the series of medals now generally ascribed to the "Venetian of 1550", we welcome what is perhaps, next to the theory about Francesco di Giorgio, the most important suggestion in the book. The artist, he maintains, is Danese Cattaneo (1508-1573). He shows that Cattaneo stood in relation with a good number of the persons represented on this series, including Giovanni delle Bande Nere, whose medal with the thunderbolt he for the first time very plausibly includes in the series.

Dr. Habich's illustrations are for the most part made direct from the originals, not from what he calls "dead" plaster-casts. That is the ideal process, if it were only possible to obtain good photographs. But there are so great difficulties in the way that the other advantages of the plaster cast far outweigh its disadvantages. One has

only to compare the plates in this volume with those in almost any other publication to be convinced of the fact. On the desirability of not reducing the scale of the reproduction every one will be with him. Unfortunately that adds greatly to the expense.

It only remains to congratulate the author on completing (and finding a publisher for) a work containing so lucid, illuminating, thorough, and well-proportioned a survey of a field in which these qualities are usually greatly to seek.

G. F. H.

Biographical Dictionary of Medallists, Coin-, Gem-, and Seal-Engravers, &c., compiled by L. FORFER. Vol. vii (Supplement A-L). Pp. 567. Spink & Son, 1923.

The Supplement of this very useful publication is welcome. The indefatigable compiler thinks that two more volumes will be necessary ; but we shall not be surprised if a second Supplement is not called for after that.

We notice a few points in the way of addition or correction. It must be remembered that though the title bears the date 1923, the work has been running for years in the *Numismatic Circular*, so that many publications which appeared before 1923 could not be used for the earlier part of the volume.

Needless to say, on all Italian medallists of the Renaissance, Dr. Habich's new work should be consulted.

A.A.: the suggested attribution of medals thus signed to Agostino Ardentì has been confirmed by Burckhardt (*Anz. für schweiz. Altertumskunde*, 1918, p. 48). He is to be distinguished from Alessandro Ardentì, whose medals are signed with a monogram of A R (*ibid.*). Aker: is a signature on a medal of Count Horn, Van Loon I, p. 118, a seventeenth century restitution (according to M. Tourneur perhaps by W. O. Akersloot). Antico: the leading authority on this artist, Hermann's article in the Vienna *Jahrbuch*, 1909-10, should have been mentioned. Boulton (Matthew): his initials occur on the border of the Nelsoni decoration commemorating Copenhagen (Milford Haven, no. 492). Briot (Nicolas): add *Num. Chron.* 1913 (Miss Farquhar). Briot (Isaac): add *Rev. Num.* 1916, pp. 157 ff. Candida: add M. Tourneur's important article in *Revue Belge* (1914-19);

also *Num. Chron.* 1920, pp. 90 f., 279 f. Capocaccia: his name was not Mario, but Giov. Battista (*Burl. Mag.* Jan. 1912, p. 208). Dmitriev (N. A.): see *Num. Sbornik II*, p. 253. This article contains information about a large number of other medallists, some of whom have altogether escaped Mr. Forrer's net. Domenico di Polo: H. de la Tour's differentiation of this man's and Francesco dal Prato's work in *Congrès Intern.* 1900, should have been used. This may be done under *Ortensi*. Enzola: add the medal of Federigo of Urbino (*Burl. Mag.* Jan. 1912, p. 200). Gaci (Rutilio): early seventeenth century. See *Boletín de la Soc. Española de Excusiones*, xiii (1908), pp. 57 ff. Guglelmada: add a medal of Card. Camillo Massimi, rev. *Astra tenet*, 1678, signed I. B. GVGIELM. F. Hermes Flavius: we have long known something about this artist; see Rossi in *Riv. Ital.* 1888. Lanteri: died 1918. Laurana: add the important monographs on this artist by W. Rolfs (1907) and F. Burger (1907). Leoni (Leone): there is a confusion here. The article referred to is by Mr. T. W. Greene, and the medal proved to be the work not of Leone but of Lodovico. Lorenzo de' Medici: the cameo illustrated represents Alessandro de' Medici.

G. F. H.

Der Untergang der Römerherrschaft in Pannonien, von ANDREAS ALFÖLDY. Vol. I. (Ungarische Bibliothek für das Ungarische Institut an der Universität Berlin, erste Reihe, Vol. X, edited by ROBERT GRAGGER) Walter de Gruyter & Co., Berlin & Leipzig, 1924. Pp. 91. Goldmark 2.

THE name of Dr. Alföldy is already familiar to students of Roman numismatics as that of an enthusiastic and successful student of coins of Illyricum under the Roman Empire. This new work represents a very able application of numismatic data to the interpretation of history. It has long been known that the great Gothic invasion, which swept the Danube provinces towards the close of the reign of Valens, gave a shock to Roman government there from which it never recovered. But it has been too hastily assumed that the desolation of Illyricum was immediate and complete, and Dr. Alföldy now brings the question to the quiet and unbiased test of numismatics for decision.

By a careful examination of the latest issues of the mint of Siscia he proves that there was little, if any, interruption with its coinage before A.D. 378, but that the death of Gratian in A.D. 383 disturbed its working and transferred the mint temporarily from the Western to the Eastern government and that finally, after a brief issue on Western models in A.D. 386-7 the mint closed, for good—if we omit a strange coin of Priseus Attalus, the authenticity of which is not certain. Such Roman coinage as reached Pannonia after A.D. 387 came largely from the mint of Aquileia. The gold coins of Sirmium, struck in A.D. 379 and 394-5, were essentially military issues. Dr. Alföldy next proceeds to a careful survey of finds of late Roman coins in Pannonia and demonstrates a very marked decline in numbers, but not a complete stoppage, about A.D. 395. Finally, Dr. Alföldy discusses the date at which Illyricum was divided for administration between East and West, and the notices relating to Pannonia contained in the *Notitia Dignitatum*.

The Roman collector is familiar enough with the small brass of the fourth century and has probably acquired for them something of the contempt of familiarity. Dr. Alföldy's careful studies force us to remember, what we should never have forgotten, that these little pieces have their lessons of history to teach us and that we have only ourselves to blame, if we will not learn to date and understand them. As soon as we begin to do that, the points of interest leap to the eye. A further reason why the British student should read this paper is that Britain has a problem similar to that of Pannonia, in regard to its date of abandonment by the Romans. In the British question, as in the Pannonian, coins, by general consent, must supply a large part of the evidence. Of the right interpretation of such evidence Dr. Alföldy has given us an excellent model.

H. M.

IX.

SOME RARE OR UNPUBLISHED COINS OF MAGNA GRÆCIA IN MY COLLECTION.

(SEE PLATES IX, X.)

Neapolis Campaniae.

1. *Obv.* Head of nymph l., hair rolled and diademed; behind neck, A.

Rev. ΜΕΟΓΟΝΙ, above; in exergue, ΣΕΤ Man-headed bull standing r.; beneath, ΤΑ

↑ AR. .8" 20 mm. Wt. 110·4 grains, 7.15 grammes.

[Pl. IX. 1.]

From the Mathey Collection, No. 4 in the Paris sale, 19 xii. 1921.

The only other examples published are (a) *B.M.C.* 4, which is also described by Sambon (A.), *Les Monnaies Antiques de l'Italie* (No. 329), and described and illustrated by Garrucci, *Le Monete dell' Italia Antica*, p. 84, Pl. lxxxiv. 26; and (b) Cahn, Sale Catal. No. 35 (1913), No. 17. The British Museum coin is not well struck, and that part of the ethnic here shown in the exergue is not there visible. Garrucci and Sambon have used the letters beneath the bull (retrograde) to produce ΜΕΟΓΟΝΙ[Τ]ΑΣ, a form known in later issues. My more complete coin removes the uncertainty with regard to " " and " ". The interpretation of the other letters on obverse and reverse is still open, and should be considered with the fact that the coin is to be attributed to the second half of the fifth century, when the letter was not frequent.

Teanum Sidicinum.

2. *Obv.* ΡΑΝΙΝΛΤ Head of young Heracles r., in lion's skin head-dress tied beneath chin: border of dots.

Rev. ΡΙΡΙΚΙΝΙΒΑ (in exergue). Triga in high action driven l. by Nike, who holds reins in l. hand, goad in r.

↓ *A.R.* .85" 22 mm. Wt. 107.1 grains, 6.94 grammes.
[Pl. IX. 2.]

Coin with the full inscription *Teamud Sidikinud* seem to be rare. Sambon (*op. cit.*, No. 977) only knows four examples, of which those in the British Museum and in the Luynes Collection are plated; that in Berlin is much oxidized, and the remaining coin is to be found in Naples (weight 6.90). The coin here published, of different dies from those of the British Museum specimen, was formerly in the Torremuzza cabinet.

Tarentum.

3. *Obv.* ΤΑΡΑ | Τ Taras astride dolphin l.; right hand outstretched, bent at elbow, l. resting on dolphin's back; beneath, scallop shell: plain border.

Rev. Wheel of four spokes.

A.R. .65" 16 mm. Wt. 122.5 grains, 8.00 grammes.
[Pl. IX. 3.]

This is an overstruck coin whose superimposed types have suffered from the underlying types. There is no clear evidence of the former type on the obverse, but there is sufficient indication on the reverse. The reverse retains unmistakable remains of a bridled hippocamp whose head and bridle are quite clear, while the curled wing and tail are tra-

difficulty upon careful examination. On that portion of the flan which is outside the rim of the wheel are traces of the underlying legend, but these are too indistinct for basing any conclusions upon them.

I am convinced that the undertype of the reverse is a hippocamp, but before coming to that decision I have considered what might appear to be the alternative—that the coin is overstruck upon a Corinthian stater. Setting aside my conviction that the tail of the hippocamp is traceable, there are two fatal objections to the alternative—(1) the module, (2) the weight of the Tarentine coin. A reference to the *British Museum Catalogue* (Corinth), Pl. I, with the relative descriptions, will save the necessity of dwelling upon these two points in detail.

Sir Arthur Evans, *Horsemen*, p. 2 (see also Head, *H. N.*², p. 54), has told us that, on the evidence of finds, the first types with double relief were, with little doubt, those with a wheel on one side, but the evidence of the coin which I describe and illustrate seems to show that the wheel type was preceded by an issue with a hippocamp.

4. *Olv.* Nude youthful horseman cantering r., reins in l. hand, r. resting on horse's flank; beneath, a letter (? Γ).

Rev. [T]ΑΡΑΣ Youthful Taras on dolphin l., with r. leg outlined above dolphin's head; extended r. hand holds kantharos, l. rests on dolphin's back; beneath, Λ: behind, Φ

→ AR. .75" 18 mm. Wt. 121.2 grains, 7.85 grammes.
[Pl. IX. 4.]

Formerly in the collections of the Berlin Museum,
Leof-Blumer and Löbbecke.

5. *Obv.* Nude youthful horseman galloping r.: plain border.

Rev. ΤΑΡΑΣ Youthful Taras on dolphin l.; in extended r. hand akrostolion; l. rests on dolphin; on body of dolphin, Η

↓ AR. .75" 18 mm. Wt. 116.6 grains, 7.56 grammes.
[Pl. IX. 5.]

6. *Obv.* Nude youthful horseman pacing l., reins in l. hand, r. crowning horse which lifts the off foreleg; beneath, Λ

Rev. ΤΑΡΑΣ Youthful Taras on dolphin l., with r. leg outlined above dolphin's head; in outstretched r. hand, kantharos; l. rests on dolphin's back; beneath, Ρ

↓ AR. .8" 20 mm. Wt. 121.9 grains, 7.90 grammes.
[Pl. IX. 6.]

The last three coins are published because they have not been traced elsewhere, at least in combination of dies. They all appear to be attributable to Evans's Period III.

Heraclea Lucaniae.

7. *Obv.* ΑΘΑΝΑΣ Head of Athena r. in crested Athenian helmet adorned with Scylla, whose l. hand is outstretched, r. hand hurls a stone; Athena wears a button ear-ring and her luxuriant hair overlaps the helmet and falls down upon her neck.

Rev. ΗΡΑΚΛΕΙΩΝ Young nude Heracles r., strangling lion; in field l., bow and club.

← AR. .85" 22 mm. Wt. 117.8 grains, 7.63 grammes.
[Pl. IX. 7.]

This rare coin is now represented in the national collection (1881. 6. 11), though not in the *Brit. Mus. Cat.* An example is illustrated by Carelli (clx. 2) and in M. Jameson's *Catalogue* (241). An inf.

specimen from the same obverse and different reverse die was in the Picard sale (Sambon, March 14, 1923, lot 103). The Carelli coin has an incomplete legend, and that of M. Jameson is not well struck on the reverse. The legend **ΑΘΑΝΑΣ** is the genitive of the Doric form of Athena and is to be understood as referring to the head or image of Athena; it should not be confused with the abbreviated form **ΑΘΑ** on the reverse of some of the later issues (e.g. B.M.C. 33) which probably abbreviates a magistrate's name of some such derivative style as **ΑΘΑΝΑΓΟΡΑΣ** or **ΑΘΑΝΟΔΩΡΟΣ**.

8. *Obv.* Head of Athena l. in crested Corinthian helmet bound with olive-wreath; behind neck, **ΦΙ**

Rev. **FHP | ΑΚΛΕΙΩΝ** Youthful nude Heracles standing half-turned l.; in extended r. hand, drinking cup; l. arm holds club and lion-skin; crowned by Nike flying r.; in field l. **ΞΩΣΙ**.

← R. .8" 20 mm. Wt. 113·8 grains, 7·37 grammes.
[Pl. IX. 8.]

Mr. S. W. Grose (*Num. Chron.*, 1917, pp. 174 and 180) has assumed a **ΦΙ-ΞΩΣΙ** stater or didrachm, but the coin upon which he relies (Strozzi 971) is a drachm. There was a didrachm, apparently from the same dies as that here published, in Bourgey's sale, Dec. 20, 1921. Sir Arthur Evans (*Num. Chron.*, 1918, p. 142, No. 80, Pl. vi. 22) describes a coin with the same types having "traces of inscription". That coin, now in the British Museum collection from the Ford bequest, is of a different reverse die from that here described, and Sir Arthur seems to read its traces as part of a two-lined inscription. **ΞΩΣΙ**, as a magistrate's name, appears on the Strozzi (*vide supra*) and the Jameson (247) drachms quoted by Mr. Grose

(*loc. cit.*), but its occurrence upon a didrachm does not appear to have been otherwise recorded, though it may very likely be an abbreviation of the full name ΣΩΣΙΒΙΟΣ published by Carelli (clxi. 24), and by Forrer in the *Weber Catalogue*, I, No. 717.

Metapontum.

9. *Obv.* **MΣΤ** Ear of barley ; in field r., grain of corn, point downwards : border of raised dots.

Rev. Same type incuse without legend or symbol : border of radiating lines.

↑ *R.* .7" 17.5 mm. Wt. 41.2 grains, 2.67 grammes.
[Pl. IX. 9.]

This coin, from the Bement Collection, does not appear to have been recorded hitherto, and is not included in Mr. Comparette's catalogue of selections from that collection. The symbol, curiously, seems to be a grain of wheat, not barley.

10. *Obv.* Female head l., hair rolled ; wearing ear-ring of single pendant and necklace : border of dots.

Rev. **META** (in field l.). An ear of barley, blade r. ; in field r., murex and, on a raised label, **HHP**
Overstruck on a coin similar to B.M.C. 58.

↓ *R.* .85" 22 mm. Wt. 120.7 grains, 7.82 grammes.
[Pl. X. 10.]

This combination has not been traced, but there is in the Hunterian collection (vi. 16) and also in the British Museum a coin with the same Kimonian head and, on the reverse, the same inscription **HHP**, but on the plane of the flan, while the legend **METAΠΟ** appears on a raised label ; a third was in the Sambon and Canessa sale, March 24, 1902, lot 12. In none of those examples is there a murex ; but the murex as reverse symbol occurs on the Philipsen coin (Hirsch xv. 568 = Pozzi 177) from the same obverse die ; it is even

possible that the reverse die of my coin is the die of the Philipsen coin considerably altered.

11. *Obv.* Head of Persephone l., hair bound with fillet and barley wreath, of which one ear droops over the forehead; button ear-ring.

Rev. [Μ]ΕΤΑΠΟ Ear of barley, blade l.; in field r., a vine tendril with leaf above and bunch of grapes below.

↑ *A.R.* .85" 21 mm. Wt. 118.3 grains, 7.67 grammes.
[Pl. X. 11.]

This coin does not appear to have been published; it was formerly in the Von Gansauge Collection. For the obverse, however, see Strozzi 995, Hirsch sales xxi. 360 and xxix. 48, and Sambon, Dec. 19, 1907, lot 32 (all from the same obverse die?), and with vine-tendril and leaf and bunch of grapes on the reverse, from a different die with inscr. **METAΠONTI** and no blade.

12. *Obv.* Head of Persephone r., hair rolled and bound with wreath of barley; wearing ear-ring of single pendant and necklace.

Rev. **META** Ear of barley, blade r., above which, ant r.

↓ *A.E.* .55" 14 mm. Wt. 46.7 grains, 3.03 grammes.
[Pl. X. 12.]

Apparently unpublished. Cf. the ant as symbol on the bronze of different types, Weber, No. 804.

Thurium.

13. *Obv.* Head of Athena r. in crested Athenian helmet adorned with Scylla, l. hand raised to her head; on crown of helmet, in minute letters, ΙΣ

Rev. [Ο]ΟΥΡΙΩΝ Bull, with lowered head, charging r., off foreleg and tail raised; beneath, olive leaf, stalk r.; in exergue, fish swimming r.; exergual line dotted.

→ *A.R.* .75" 18 mm. Wt. 114.0 grains, 7.39 grammes.
[Pl. X. 13.]

Imhoof-Blumer (*Monnaies Grecques*, p. 7) has introduced to us the engraver, whose name is signed **IΣΤΟΠΟΣ** in full on the tetradrachm of Thurium, published by him from the Luynes Collection. It seems justifiable to assume that the same engraver has signed the die here illustrated, and the abbreviated form of the signature and its unobtrusive position, together with the less developed type of bull, suggest that we have in the didrachm an earlier work of the artist. To Imhoof, the Luynes tetradrachm was the only example known of the work of *Iστωρ*, and Mr. Forrer, in his *Signatures* (pp. 194 seq.), quotes no other; but Mr. E. S. G. Robinson has very kindly drawn my attention to the tetradrachm in the Naville sale catalogue, v, No. 551, from the same dies as the Luynes coin.

14. *Obv.* Head of Athena r. in crested Athenian helmet adorned with Scylla, whose r. hand holds a stone which she is in the act of throwing; Athena wears ear-ring of single pendant; on flap of helmet, **ΣΙ**

Rev. **ΘΟΥΡΙΩΝ** Bull butting r.; above, **ΝΙ**; in exergue, a coiled serpent r.

↓ *R.* .85" 22 mm. Wt. 115.0 grains, 7.45 grammes.
[Pl. X. 14.]

The only other example traced is in the *Hunterian Catalogue*, No. 72, which is not illustrated.

Caulonia.

15. *Obv.* Nude beardless male figure advancing r. with r. hand uplifted and holding branch; l. arm extended, over it is hung a knotted fillet with triple-tasselled ends; in field l., fibula: border of dots.

Rev. **KΑΒΑΟ | ΝΙΑΤΑΜ** around, r. upwards to l. downwards. Stag standing r. on dotted exergual line.

↑ *R.* 1.00" 25 mm. Wt. 123.0 grains, 7.97 grammes.
[Pl. X. 15.]

There is no example of these dies in the British Museum. There is one in the McClean Collection (1635) and one in the *Weber Catalogue* (987); one appears in the sale catalogue, Hirsch xxxi. 98, and another in Naville vi. 271; but in every case the inscription is incorrectly transcribed, owing, in the McClean example certainly and in the other cases probably, to the imperfect preservation of the respective specimens.

Croton.

16. *Obv.* **AΙΣΑΡΟΣ** r. downwards. Head of river-god Aisaros r., laureate and with short hair.

Rev. **KPO** Pegasos flying r.

← **R.** .55" 14 mm. Wt. 30.1 grains, 1.95 grammes.
[Pl. X. 16.]

From the Picard Collection (Paris Sale, March 14, 1928, lot 209), formerly in the Sambon sale, Dec. 19, 1907, lot 64. This rare coin is illustrated indifferently by Garrucci (ex. 4), the inscription, though given correctly in the text, reading **AΙΣΑΡΟΣ**. It was not in his collection, but was reproduced by him from Avellino. But for the legend, it would be natural to describe the head as that of Apollo, for it is very like the head of that divinity as he appears upon the gold staters of Philip of Macedon.

17. *Obv.* **KRO**, possibly **KROT**, r. upwards. Tripod lebes with three handles; in field l., leaf, stalk downwards: border of dots.

Rev. Fulmen; in field r., star of eight rays; in field l., eagle, with closed wings and head reverted, seated l. on column with Ionic capital.

← **R.** .45" 12 mm. Wt. 15.8 grains, 1.02 grammes.
[Pl. X. 17.]

L. Sambon, *Recherches sur les Monnaies de la Presqu'île italique*, p. 327, No. 59, describes but does not illus-

trate this coin. It comes to me from the Weber Collection (*Weber Cat.*, No. 1023). In the Philipsen Collection (Hirsch xv. 797) was a similar coin, but with the positions of the two reverse symbols, as also of the symbol and the inscription on the obverse, interchanged, and reading apparently **KPOT**. I cannot speak with certainty of the fourth letter of the legend, but, unlikely as it may seem, the *rho* is of the tailed form. This form is rarely found at Croton at any period ; there are three examples in the British Museum (B.M.C. 12, 14, 21) all associated with Q. The tailed *rho* with K makes the legend as singular as are the combined types and symbols of the reverse.

Rhegium.

18. *Obv.* Lion's mask : border of dots.

Rev. Head of Apollo laureate l. ; hair turned up behind.

→ AE. .45" 12 mm. Wt. 28.2 grains, 1.83 grammes.
[Pl. X. 18.]

This early coin appears to belong to the first bronze issues of this mint, which, according to Imhoof-Blumer, *Monnaies Grecques*, p. 10, are the earliest Greek bronze coins known. Another, apparently from the same dies, was in the Brandis sale, lot 157.

19. *Obv.* Lion's mask : border of dots.

Rev. ΡΗΓΙΜΗ Head of Apollo r. laureate, hair turned up behind ; in field l., laurel leaf, stalk downwards.

↑ AE. .45" 12 mm. Wt. 19.0 grains, 1.23 grammes.
[Pl. X. 19.]

Cf. *Monnaies Grecques*, p. 10, No. 41 = Garrucci cxiv. 32. This adjectival feminine form of the legend is known only in this issue of Rhenine bronze coins.

Brandis, *Münzwesen in Vorderasien*, pp. 281 and 585, has suggested that the substantive qualified is οὐγκία. Imhoof, *loc. cit.*, offers πόλις, while Head, *H.N.*², xlv, postulates some such word as σφραγίς as being in agreement with ΡΗΓΙΝΗ. Having in mind the fiduciary character of this very small bronze coin, whose intrinsic worth was negligible and whose circulation could only be assured by the guarantee of the city which it bore, it is perhaps possible that the legend agreed with some such word as πίστις, making the complete phrase ἡ 'Ρηγίνη πίστις.

Terina.

20. *Obv.* TEPI upwards, close behind neck. Head of nymph r., hair rolled; wearing button ear-ring and necklace.

Rev. Nike seated l. on wreathed cippus; clad in Ionic chiton and himation and wearing bracelet on l. arm, which rests on cippus; r. hand, extended, holds wreath, and on back of r. hand is a bird l. with raised wings.

↓ AR. .88" 22.5 mm. Wt. 118.6 grains, 7.69 grammes.
[Pl. X. 20.]

This coin has been traced only in Garrucci (*op. cit.*, cxvii. 11) and this example appears to be the one illustrated by him. It was not in his collection and was probably illustrated from a cast, which may account for the imperfection of his reproduction.

21. *Obv.* TE upwards, close behind neck. Head of nymph r., hair in sphendone.

Rev. Nike seated l. on wreathed square cippus; clad in Ionic chiton and himation; on outstretched r. hand, a bird r.; l. hand rests on cippus; in field l., upwards, ΦΙΛΙΞΤΙ

↓ AR. .6" 15 mm. Wt. 32.8 grains, 2.13 grammes.
[Pl. X. 21.]

For the reverse, *vide* Regling's *Terina*, Pl. III. 7; the obverse has not been traced.

These two coins have striking points of resemblance, and it is reasonable to suppose that they are from the hand of the same engraver. The didrachm does not appear among the dies enumerated by Dr. Regling, but he notes the Garrucci illustration (cxvii. 11) under his No. 93, which is a plated coin in the Vienna Collection, equated by him with Carelli clxxviii. 22. He suggests that the coin illustrated by Garrucci may also be that of Vienna, but this is not possible. Indeed, the differences between the respective illustrations are so great that it is not easy to follow the lines leading Dr. Regling to his suggestion. The treatment of the hair, the length of the legend and its position are entirely different on the obverse; the reverse of the Garrucci coin has a wreath on the cippus, which is absent from the Carelli, and its bird is left, while the bird of the Carelli coin is right.

The possibility of the coin here described and illustrated being plated has been refuted by the specific gravity test.

A. H. LLOYD.

X.

A PARTHIAN HOARD.

(SEE PLATES XI-XVI.)

IN the summer of 1923, a most interesting and important coin, an unpublished tetradrachm of the Parthian usurper Himerus, reached the present writer from Paris. As it turned out, however, this coin was but the forerunner of a still more interesting hoard of Seleucid, Cappadocian, Bactrian, Alexandrine, and Parthian coins only recently unearthed.

The hoard in question is said to have been found in eastern Irak (Assyria), at or near the little town of Mandali (Mendali) on the Persian border, and some forty miles to the south of Khanikin. Further details, for the present at least, are not available. Even the number of coins found is not definitely stated, but the writer has reason to believe that the hoard probably did not contain many more than the 304 pieces here catalogued. Although reaching the market through various channels, the coins can all be traced back to one source in Baghdad, and this source seems now to be exhausted. Unless the original finders still retain a portion of their "loot", which seems unlikely, it is improbable that any considerable portion of the find now remains unknown (but see p. 180).

After discovery the coins were divided into several large groups for purposes of disposal. Two lots were

shown at the British Museum, within a few days of each other, in December, 1923, and a record taken of them. The first of these lots appears to be still in London. The second, together with a third one not sent to London, was acquired by the writer in Paris towards the end of February, 1924. A fourth lot was acquired from Paris in June, 1924, while fifteen tetradrachms of Mithradates II arrived about the same time direct from Baghdad.

The writer's grateful acknowledgements are due to Mr. Hill for his generous readiness to cede his prior right of publication, for the loan of his notes covering the coins actually shown at the British Museum, and, finally, for the offer of space in the pages of the *Chronicle* in which to describe this important find. Concerning the real scientific importance of this new hoard there can be no question. With the exception of one or two¹ merely passing notices, no study has ever been made of a Parthian hoard. We need not further dwell on the value of having such an unfortunate *lacuna* even partially filled. As an immediate result, our hoard offers a most welcome and complete corroboration of Wroth's theory on the probable distribution of certain coins among the five Parthian kings from Mithradates I to Mithradates II.

¹ So Prokesch-Osten, on page 18 of his *Les Monnaies des rois Parthes*, states that certain of his Parthian tetradrachms came from a find made near Basrah in 1860. Col. Allotte de la Fuÿe also makes a mention of two hoards of Parthian bronze coins, one in *Proc. Verb.* of the *Soc. Fr. de Num.* in the *Rev. Num.*, 1912, p. xliv, and the other in *Rev. Num.*, 1919, pp. 74-5. We are more fortunate as regards the so-called sub-Parthian series. Here hoards of coins of Elymais, Persis, and Characene have frequently been published.

In the following description, the four larger lots mentioned above are designated A, B, C, and D. Lot A comprised forty-eight Parthian drachms, eight Seleucid tetradrachms and two drachms, one Tyrian tetradrachm, two Alexandrine tetradrachms, and one Bactrian tetradrachm. Of these Mr. Hill made a careful inventory, and retained for the British Museum collection the Tyrian tetradrachm, together with two Seleucid tetradrachms and one drachm. One of the Alexandrine tetradrachms later found its way into lot B, and is now in the writer's collection. This second parcel, when shown at the British Museum, contained two Parthian tetradrachms and thirty drachms, along with six Seleucid tetradrachms. Of these the Museum retained one Seleucid tetradrachm and three Parthian drachms. Soon after, the owner disposed of the tetradrachms of Mithradates II and two of the drachms. The remainder were seen intact by the writer in February, 1924, and were secured by him, with the exception of one of the tetradrachms of Antiochus VIII, and the Himerus tetradrachm. Lot C contained seventy-four Parthian drachms, eight Seleucid tetradrachms, two Seleucid drachms, and one Alexandrine drachm. Apparently, this parcel was not brought to the British Museum, as its contents in no way tally with any of Mr. Hill's lists. In February, 1924, it was still in the possession of a certain Oriental importer residing in Paris, and was secured for the writer through the kind offices of M. Bourgey of that city. Lot D contained one Cappadocian drachm, eleven Seleucid tetradrachms and six drachms, eighty-one Parthian drachms and a tetradrachm of Mithradates II.

Excepting the Alexandrine pieces and the earlier of the Seleucid and Parthian issues, the coins in the find are exceedingly well preserved. The majority of the drachms of Mithradates II are in truly brilliant condition, and had therefore seen but little circulation at the time they were buried. Most fortunately none of our 304 pieces had been cleaned before being shown. A very light fawn-coloured clay, with here and there patches of verdigris, covered most of the coins. Perhaps a dozen specimens only had touches of the purple oxide so commonly seen on silver coins fresh from the earth. One of the drachms of Phraates II, however, was completely covered with this purple oxide, and had it not been for the accompanying patches of the characteristic fawn-coloured clay, one might have questioned its original presence in the hoard. On the whole, though, the appearance of the coins was identical throughout, and there cannot be the slightest question but that they came, as stated, from one and the same find. For purposes of ascertaining their correct weights, the coins have now been cleaned, excepting some five of the commoner Parthian drachms which have been kept in their original state simply as a matter of record.

In the following catalogue the principal references cited are: for the Alexandrine coins, Ludwig Müller, *Numismatique d'Alexandre le Grand*, Copenhagen, 1855; for the Seleucid coins, the British Museum Catalogue of this series, and E. T. Newell, "The Seleucid Mint of Antioch," in vol. li (1917) of the *American Journal of Numismatics*, here abbreviated A. J. N.; for the attribution of the Parthian coins, the British Museum Catalogue, *Parthia*, together

with Petrowicz' *Arsaciden-Münzen*, Vienna, 1904, have been extensively quoted.

ALEXANDRINE ISSUES.

Uncertain mint in Asia Minor. *Circa* 310 B.C.

1. Drachm. Müller, no. 835.

Head of youthful Herakles to r. *Rev.* ΑΛΕΞΑΝΔΡΟΥ. Zeus aetophoros enthroned to l. In field, ΗΕ. Beneath throne, ΑΑ.

Lot C (now E.T.N.). Gr. 3.87. Worn. [Pl. XI. 1.]

Mint: Temnus in Aeolis. *Circa* 175 B.C.

2-3. Tetradrachms. Müller, no. 956.

Types similar to the preceding. In field, ΗΕ above Amphora surrounded by a vine branch.

Lot A (one now E.T.N.). Gr. 16.40. Both specimens worn. [Pl. XI. 2.]

KINGS OF CAPPADOCIA.

Ariarathes VII. 130-100 B.C.

4. Drachm.

Diademed head to r. *Rev.* ΒΑΣΙΛΕΩΣ ΑΡΙΑΡΑΘΟΥ ΕΠΙΦΑΝΟΥΣ. Athene Nikephoros standing to l. with spear and shield. To l., Ε, to r., Η. Lot D (now E.T.N.). Gr. 4.20. Good. [Pl. XI. 3.]

SELEUCID KINGS OF SYRIA.

Demetrius I. 162-150 B.C.

Mint: Antioch.

5. Tetradrachm. Variety of A.J.N., no. 87.

Diademed head of king to r., in laurel wreath. *Rev.* ΒΑΣΙΛΕΩΣ ΔΗΜΗΤΡΙΟΥ. Seated Tyche. On l., Η.

Lot B (now Brit. Mus.). Gr. 16.76. Worn. [Pl. XI. 4.]

6. Tetradrachm. A. J. N., no. 100.

Types similar to preceding, but inscription now reads:
ΒΑΣΙΛΕΩΣ ΔΗΜΗΤΡΙΟΥ ΣΩΤΗΡΟΣ. On

l.,

Lot C (now E. T. N.). Gr. 16.50. Good.

7. Drachm. A. J. N., no. 126.

Diademed head of king to r. Rev. **ΒΑΣΙΛΕΩΣ ΔΗΜΗΤΡΙΟΥ ΣΩΤΗΡΟΣ.** Cornucopiae. On r., above ΑΞΡ.

Lot D (now E. T. N.). Gr. 4.05. Worn. [Pl. XI. 5.]

Alexander I, Balas. 150-145 B.C.

Mint: Antioch.

8-9. Drachms. A. J. N., no. 139.

Diademed head of king to r. Rev. **ΒΑΣΙΛΕΩΣ ΑΛΕΞΑΝΔΡΟΥ ΘΕΟΠΑΤΟΡΟΣ.** Apollo seated to l. on omphalos. On l., cornucopiae.

In the exergue, ΓΞΡ

Lot D (now E. T. N.). Gr. 4.09, 4.13. Worn and good.

10. Drachm. A. J. N., no. 172.

Similar in types to the preceding. On l., In the exergue,

Lot D (now E. T. N.). Gr. 4.11. Good. [Pl. XI. 6.]

11-12. Drachm. A. J. N., no. 176.

Similar. In the exergue,

Lot C (now E. T. N.). Gr. 4.03. Good. [Pl. XI. 7.]

Lot D (now E. T. N.). Gr. 4.11. Good.

13. Drachm. A. J. N., no. 177.

Similar. In the exergue, Φ.

Lot A (now Brit. Mus.). Gr. 4.05. Worn.

14. Drachm. A. J. N., no. 179.

Similar. In the exergue, Η.

Lot C (now E. T. N.). Gr. 3.97. Worn.

Demetrius II, Nicator. First reign, 146–138 B.C.

Mint: Seleucia ad Tigrim.

15–16. Tetradrachms.² B. M. Cat., *Kings of Syria*, p. 60, no. 18.

Diademed head of the young king to r., surrounded by a fillet border. Rev. ΒΑΣΙΛΕΩΣ ΔΗΜΗΤΡΙΟΥ ΦΙΛΑΔΕΛΦΟΥ ΝΙΚΑΤΟΡΟΣ.

Seated Tyche. In the exergue, Λ.

Lot C (now E. T. N.). Gr. 16·35, 16·00. Both worn.

[Pl. XI. 8.]

Antiochus VI, Dionysus. 145–142 B.C.

Mint: Antioch.

17. Drachm. A. J. N., no. 249.

Radiate head of young king to r. Rev. ΒΑΣΙΛΕΩΣ ΑΝΤΙΟΧΟΥ ΕΠΙΦΑΝΟΥΣ ΔΙΟΝΥΣΟΥ.

Apollo seated to l. on omphalos. Between his feet, Φ. In the exergue, ΟΡ ΣΤΑ.

Lot D (now E. T. N.). Gr. 4·20. Good. [Pl. XI. 9.]

18. Drachm. Variety not in A. J. N. Cf. nos. 246–250.

Similar types to the preceding. Between Apollo's feet, Λ. In the exergue, ΟΡ ΣΤΑ.

Lot A (now ?). Gr. ? Worn.

Antiochus VII, Sidetes. 138–129 B.C.

Mint: Antioch.

19. Tetradrachm. A. J. N., no. 282.

Diademed head of king to r., surrounded by fillet border. Rev. ΒΑΣΙΛΕΩΣ ΑΝΤΙΟΧΟΥ ΕΥΕΡΓΕΤΟΥ.

Athene Nikephoros to l., the whole surrounded by a laurel wreath. In front, Λ above Α.

Lot D (now E. T. N.). Gr. 16·32. Good.

² The attribution, here proposed, of these coins to Seleucia on the Tigris is proved by the style and fabric of the coins themselves. In these respects, they are identical with the immediately succeeding issues of Mithradates I (B. M. Cat., *Parthia*, nos. 48–61, Pl. III, nos. 7–13). Notice that the types of the accompanying drachm (B. M. Cat., *Kings of Syria*, p. 60, no. 19) are exceptional for the issues of Demetrius II, but are exactly reproduced on the aforementioned issues of Mithradates I. The usual provenance of all of these coins is, as in the present case, Mesopotamia.

20. Tetradrachm. A. J. N., no. 283.

Types similar to the preceding. In front, above
A. Behind, .

Lot B (now E. T. N.). Gr. 17.02. Very good.
[Pl. XI. 10.]

21-22. Tetradrachms. A. J. N., no. 288.

Types similar to the preceding. In front, above
A. Behind, .

Lot A (now ?). Gr. ? Worn.

23. Tetradrachm. A. J. N., no. 290.

Types similar to the preceding. In front, above
A. Behind, .

Lot D (now E. T. N.). Gr. 17.02. Very good.

24-26. Tetradrachms. A. J. N., no. 292.

Types similar to the preceding. In front, above
A. Behind, .

Lot A (now ?). Gr. ? Worn.

Lot D (now E. T. N.). Gr. 16.34, 16.55. Worn and
good. [Pl. XI. 11.]

Antiochus VIII, Grypus. First reign, 121-113 b.c.

Mint: Antioch.

27. Tetradrachm. A. J. N., no. 368.

Diademed head of king to r., in fillet border. Rev.
ΒΑΣΙΛΕΩΣ ΑΝΤΙΟΧΟΥ ΕΤΙΦΑΝΟΥΣ.

Zeus Uranius, naked to waist, standing to l.; the
whole within laurel wreath. In front, Be-
hind, .

Lot A (now Brit. Mus.). Gr. 16.54. Fair. [Pl.
XI. 12.]

Mint: Ake-Ptolemais.³

28. Tetradrachm. B. M. Cat., *Kings of Syria*, p. 89, no. 14.

Types similar to the preceding. In front, .

Lot A (now ?). Gr. ? Good.

³ The reader's indulgence is asked for thus making an attribution unsupported by further evidence. A monograph, dealing in detail with the Seleucid issues of Ake-Ptolemais, is now in course of preparation.

29-31. Tetradrachms. B. M. Cat., *Kings of Syria*, p. 89, no. 13.

Types similar to the preceding. In front, .

Two in Lot B (one now E. T. N.). Gr. 16·69. Fine.
Lot D (now E. T. N.). Gr. 16·60. Fine. [Pl. XII. 1.]

Mint: Damascus.⁴

32. Tetradrachm. B. M. Cat., *Kings of Syria*, p. 88, no. 5.
Types similar to the preceding, but Zeus is undraped.

In front,  above . In the exergue, 
(=117-116 B.C.).

Lot B (now E. T. N.). Gr. 16·38. Very good. [Pl. XII. 2.]

33. Tetradrachm.

Similar, but Zeus is draped.

Lot D (now E. T. N.). Gr. 16·48. Good. [Pl. XII. 3.]

34-35. Tetradrachms. *Ibid.*, p. 88, no. 7.

Types similar to the preceding. In front,  above . In the exergue, 
(=116-115 B.C.).

Lot B (now E. T. N.). Gr. 16·27. Fine. [Pl. XII. 4.]

Lot D (now E. T. N.). Gr. 16·27. Good.

36. Tetradrachm. Babelon, *Les rois de Syrie*, &c., no. 1389.

Similar. In front,  above . In the exergue, 
(=115-114 B.C.).

Lot C (now E. T. N.). Gr. 16·17. Very good. [Pl. XII. 5.]

37. Tetradrachm. *Ibid.*, no. 1394.

Similar. In front,  above . In the exergue, 
(very faint) (=115-114 B.C.).

Lot D (now E. T. N.). Gr. 16·37. Good. [Pl. XII. 6.]

⁴ A monograph on the Seleucid issues of Damascus is also in course of preparation.

Antiochus IX, Cyzicenus. 116-95 B.C.

Mint: Antioch. After 113 B.C.

38-40. Tetradrachms. A.J.N., no. 384.

Diademed and slightly bearded head of the king to r., in fillet border. Rev. ΒΑΣΙΛΕΩΣ ΑΝΤΙΟΧΟΥ ΦΙΛΟΠΑΤΟΡΟΣ. Athene Nikephoros standing to l., with shield and spear, the whole surrounded by a laurel wreath. In front, Τ over Α. Behind, Ν.

Lot A (now ?). Gr. ? Good.

Lot C (now E.T.N.). Gr. 16.65. Fine. [Pl. XII. 7.]

Lot D (now E.T.N.). Gr. 16.64. Fine.

Mint: Sidon.

41-42. Tetradrachms. B.M. Cat., *Kings of Syria*, p. 92, no. 6.

Types similar to the preceding. In front, ΣΙΔΩΝΙΕΡ | ΑΣΥ above ΕΣ. In the exergue, Σ (= 113-112 B.C.).

Lot A (now ?). Gr. ? Fair.

Lot B (now E.T.N.). Gr. 16.55. Very fine. [Pl. XII. 8.]

Mint: Ake-Ptolemais.

43. Tetradrachm. Apparently unpublished.⁵

Types similar to the preceding. In front, cornucopiae and ΗΡ.

Lot D (now E.T.N.). Gr. 16.87. Fine. [Pl. XIII. 1.]

Mint: Damascus.

44. Tetradrachm. Unpublished?

Types similar to the preceding. In front, ΑΣ above ΕΣ. In the exergue, Σ (= 113-112 B.C.).

Lot A (now Brit. Mus.). Gr. 16.53. Fine. [Pl. XIII. 2.]

⁵ A similar specimen occurred in the Collignon Sale, Paris, no. 400.

45-46. Tetradrachms. Apparently unpublished.

Types similar to the preceding. In front, Κ above ΔΤ. In the exergue, ΒΣ (=111-110 b.c.).

Lot C (now E. T. N.). Gr. 16.15. Very fine.

Lot D (now E. T. N.). Gr. 16.56. Very fine. [Pl. XIII. 3]

Antiochus VIII, Grypus.

Fourth Reign (in Antioch) 108-96 b.c.

47. Tetradrachm. A. J. N., no. 407.

Diademed head of king to r., in fillet border. Rev.

ΒΑΣΙΛΕΩΣ ΑΝΤΙΟΧΟΥ ΕΠΙΦΑΝΟΥΣ. Zeus Nikephoros enthroned to l. In front, Ρ above Α. Beneath throne, Π.

Lot C (now E. T. N.). Gr. 16.14. Good. [Pl. XIII. 4.]

AUTONOMOUS ISSUES OF TYRE.

48. Tetradrachm. Rouvier, in the *Journ. Int. d'Arch. Num.*, vol. vi, 1903, no. 2009.

Head of young Heracles laureate, to r. Rev. **ΤΥΡΟΥ ΙΕΡΑΣ ΚΑΙ ΑΣΥΛΟΥ.** Eagle to l. on ship's beak. In field, ΗΚ (=99-98 b.c.). Behind eagle, ΔΩΡ. Between feet, Σ.

Lot A (now Brit. Mus.). Gr. 14.35. Fair. [Pl. XIII. 5.]

GREEK KINGS OF BACTRIA.

Heliocles. Circa 150 b.c.

49. Tetradrachm.

Diademed head of king to r. in fillet border. Rev.

ΒΑΣΙΛΕΩΣ ΗΛΙΟΚΛΕΟΥΣ ΔΙΚΑΙΟΥ. Zeus standing facing, holding thunderbolt in r., and sceptre in l. On l., Ρ.

Lot A (now ?). Gr. ? Slightly worn.

ARSACID KINGS OF PARTHIA.

Early Kings before Mithradates I.

50-54. Drachms. B. M. Cat., *Parthia*, p. 3, nos. 12 ff.

Bust of Arsaces I to l., wearing diadem and satrapal bonnet. *Rev.* ΒΑΣΙΛΕΩΣ ΜΕΓΑΛΟΥ ΑΡΣΑΚΟΥ. Arsaces, holding bow, seated to r. on omphalos.

Lot C (now E. T. N.). Gr. 3·89, 3·89, 4·00. Worn to good.

Lot D (now E. T. N.). Gr. 3·97, 4·04. Good and very fine. [Pl. XIII. 6.]

Mithradates I. 171-138 B.C.

55-59. Drachms. *Ibid.*, p. 10, nos. 30 ff.

Diademed and bearded bust of Mithradates I to l., in fillet border. *Rev.* ΒΑΣΙΛΕΩΣ ΜΕΓΑΛΟΥ ΑΡΣΑΚΟΥ. Arsaces, holding bow, seated to r. on omphalos.

Lot B (now E. T. N.). Gr. 4·68 (*sic!*). Very good.

Lot C (now E. T. N.). Gr. 3·82 [Pl. XIII. 7], 4·24, 4·30. Worn to good.

Lot D (now E. T. N.). Gr. 4·50 (*sic!*). Very good. [Pl. XIII. 8.]

Phraates II. 138-127 B.C.

60. Drachm. *Ibid.*, p. 16, no. 2.

Diademed and bearded bust of king to l., in dotted circle. *Rev.* ΒΑΣΙΛΕΩΣ ΜΕΓΑΛΟΥ ΑΡΣΑΚΟΥ ΘΕΟΠΑΤΟΡΟΣ. Arsaces, holding bow, seated to r. on omphalos.

Lot D (now E. T. N.). Gr. 4·44. Fine. [Pl. XIII. 9.]

61. Drachm. *Ibid.*, p. 17, nos. 6-9.

Similar to the preceding. Behind the bust, A.

Lot A (now ?). Gr. ? Somewhat worn.

62. Drachm. Markoff, *Uncodierte arsacidische Münzen*, Pl. III. 8.

Similar to the preceding. Behind head, ΕΠΑΡ.

Lot D (now E. T. N.). Gr. 3·99. Worn. [Pl. XIII. 10.]

63-69. Drachms. B. M. Cat., *Parthia*, p. 17, nos. 15-20.

Similar to the preceding. Behind head, **TAM**.

Lot A (one, now ?). Gr. ? Somewhat worn.

Lot B (now E. T. N.). Gr. 3.88. (Not cleaned.) Good.

Lot C (now E. T. N.). Gr. 3.93, 4.23 [Pl. XIII. 11],
4.60 (*sic!*). Good.

Lot D (now E. T. N.). Gr. 4.13, 4.23. Good. [Pl.
XIII. 12.]

Artabanus. 127-123 B.C.

70. Drachm. *Ibid.*, p. 21, nos. 4-6.

Diademed and armoured bust to l., in dotted circle.

Rev. ΒΑΣΙΛΕΩΣ ΜΕΓΑΛΟΥ ΑΡΣΑΚΟΥ
ΦΙΛΑΔΕΛΦΟΥ. Arsaces, holding bow, seated
to l. on omphalos.

Lot C (now E. T. N.). Gr. 4.56 (*sic!*). Very good.
[Pl. XIII. 13.]

Himerus. Circa 124-123 B.C.

71. Tetradrachm. Unpublished.

Diademed bust to r., in fillet border. *Rev.* ΒΑΣΙ
ΛΕΩΣ ΜΕΓΑΛΟΥ ΑΡΣΑΚΟΥ ΝΙΚΗΦΟΡΟΥ.

Bearded Dionysus, wearing calathus and long,
flowing robes, enthroned to l. He holds Nike in
outstretched r., and cornucopiae in l. In the
exergue, .

E. T. N. Gr. 16.22. Very good. [Pl. XIV. 1.]

72. Tetradrachm.⁶ Unpublished.

Types and inscription similar to the preceding. In
exergue, .

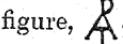
Lot A (M. Étienne Bourgey). Gr. 16.43. Very good.
[Pl. XIV. 2.]

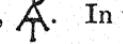
⁶ Permission to publish this very important variety has been
very kindly granted the writer by the present owner, M. Étienne
Bourgey of Paris.

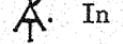
Mithradates II. 123-87 B.C.

Series I (=B. M. Cat. Class I a).

Mint "A".

73-74. Tetradrachms. B. M. Cat., *Parthia*, p. 24, no. 1. Diademed and armoured bust of Mithradates II, bearded, to l., in circle of dots. Rev. ΒΑΣΙΛΕΩΣ ΜΕΓΑΛΟΥ ΑΡΣΑΚΟΥ ΕΠΙΦΑΝΟΥΣ. Arsaces, holding bow, seated to r. upon omphalos. On r., outside inscription, palm branch. On l., behind figure, .
E. T. N. (two specimens direct from Baghdad). Gr. 15.52, 15.45. Good. [Pl. XIV. 3.]

75. Tetradrachm. Petrowicz, *loc. cit.*, p. 22, no. 6. Types and inscription similar to the preceding. On r., palm branch; on l., . In the exergue, TY.
E. T. N. (specimen direct from Baghdad). Gr. 15.03. Good. [Pl. XIV. 4.]

76-77. Tetradrachms. Allotte de la Fuÿe, *Rev. Num.*, 1904, Pl. VII. 6. Types and inscription similar to the preceding. On r., palm branch; on l., . In the exergue, TY. 
Lot D (now E. T. N.). Gr. 16.15. Fine. [Pl. XIV. 5.]
E. T. N. (specimen direct from Baghdad). Gr. 15.30. Very good.

78-82. Tetradrachms. B. M. Cat., *Parthia*, p. 24, no. 2. Types and inscription similar to the preceding. On r., palm branch. In the exergue, TY.
E. T. N. (five specimens direct from Baghdad). Gr. 15.02, 15.34, 15.39, 15.44, 15.45. [Pl. XIV. 6.] Worn to very good.

83-89. Tetradrachms. *Ibid.*, p. 24, no. 3. Types and inscription similar to the preceding. On r., palm branch.
Lot B (now?). Gr. ? Slightly worn.
E. T. N. (six specimens direct from Baghdad). Gr. 15.05, 15.12, 15.14 [Pl. XIV. 7], 15.16, 15.28, 15.70. Worn to very good.

90-92. Tetradrachms.

Three more specimens are stated⁷ to have been in the hoard. As they were not seen by the writer before dispersal, it is not known to which of the above varieties they belonged.

93-109. Drachms. B. M. Cat., *Parthia*, p. 26, nos. 12 ff.

Types and inscription similar to the preceding. No monogram or symbol.

Lot A (seven specimens, now ?). Gr. Slightly worn.

Lot B (now E. T. N.). Gr. 3.89. Very good.

Lot C (now E. T. N.). Gr. 3.81, 3.90, 3.95 [Pl. XIV. 8], 3.97 (not cleaned), 4.14, 4.41 (*sic!*) [Pl. XIV. 9]. Good to very good.

Lot D (now E. T. N.). Gr. 3.90, 4.18, 4.48 (*sic!*). [Pl. XIV. 10.] Very good.

Mint "B"

110. Drachm. Unpublished?

Types and inscription similar to the preceding.

Behind head, .

Lot D (now E. T. N.). Gr. 4.22. Fine. [Pl. XV. 1.]

111. Drachm. B. M. Cat., *Parthia*, p. 25, no. 11.

Similar, but behind head, .

Lot A (now ?). Gr. ? Slightly worn.

112. Drachm. Petrowicz, Pl. III, no. 1.

Similar, but behind head,  and  On reverse, behind figure, .

Lot B (now Brit. Mus.). Gr. 4.16. Slightly worn.
[Pl. XV. 2.]

⁷ The writer's Baghdad correspondent, in a recent letter, states that a total of twenty tetradrachms of Mithradates II were in the find. Of these, fifteen were sent to America, two to Paris (nos. 76 and 83 above), and the remaining three sold in Baghdad.

Series II (= B. M. Cat. Class I a).

Mint "A".

113-137. Drachms. B. M. Cat., *Parthia*, p. 27, nos. 29 ff.
 Diademed and armoured bust to l. A large star is frequently visible on the king's left breast. *Rev.* Inscription as above. Arsaces, holding bow and arrow, seated to r. on high-backed throne.
 Lot A (three specimens, now?). Gr. ? Good.
 Lot B (now E. T. N.). Gr. 4.15, 4.18, 4.21, 4.22.
 [Pl. XV. 3.] Fine.
 Lot C (now E. T. N.). Gr. 4.08, 4.15, 4.16, 4.20 (not cleaned), 4.21, 4.22, 4.22, 4.23. [Pl. XV. 5.]
 Lot D (now E. T. N.). Gr. 4.14, 4.17, 4.17 [Pl. XV. 6], 4.18, 4.19 [Pl. XV. 4], 4.20, 4.22, 4.24, 4.25. Fine and very fine.

138-145. Drachms. *Ibid.*, p. 27, nos. 23-25.
 Similar, but with Δ on the l., outside the inscription.
 Lot A (two specimens, now?). Gr. ? Good.
 Lot C (now E. T. N.). Gr. 4.15, 4.18, 4.22. Good to very fine.
 Lot D (now E. T. N.). Gr. 4.18 [Pl. XV. 7], 4.21 [Pl. XV. 8], 4.22. Good to very fine.

146. Drachm. Apparently unpublished.
 Similar, but with crescent on l., outside inscription.
 Lot D (E. T. N.). Gr. 4.16. Good. [Pl. XV. 9.]

Mint "B".

147. Drachm. *Ibid.*, p. 27, no. 26.
 Behind head, . *Rev.* Arsaces seated on throne to r., holding bow with both hands.^s
 Lot B (now?). Gr. ? Slightly worn.

148. Drachm. Petrowicz, p. 23, no. 13.
 Behind head, . *Rev.* Arsaces as above.
 Lot D (now E. T. N.). Gr. 4.18. [Pl. XV. 10.]

149. Drachm. Apparently unpublished.
 No letters behind head. *Rev.* Arsaces as above. In front, A above E.
 Lot D (now E. T. N.). Gr. 4.29. Fine. [Pl. XV. 11.]

^s For an illustration of this variety, see Petrowicz, Pl. III. 12.

150. Drachm.

Similar, but no letters on either obverse or reverse.

Lot D (now E. T. N.). Gr. 4.20. Fine. [Pl. XV. 12.]

151. Drachm. Petrowicz, p. 26, no. 36.

Similar, but in l. field, E.

Lot A (now ?). Gr. ? Slightly worn.

152-160. Drachms. B. M. Cat., *Parthia*, p. 26, nos. 21-22.

Similar. A large star is sometimes visible, on this issue, on the king's left breast. On the reverse Arsaces holds bow and arrow with both hands. Behind, ,  or .

Lot A (one specimen, now ?). Gr. ? Good.

Lot B (now Brit. Mus.). Gr. Slightly worn.

Lot B (now E. T. N.). Gr. 4.22, 4.24. Fine. [Pl. XV. 13.]

Lot C (now E. T. N.). Gr. 4.12, 4.20 [Pl. XV. 15], 4.24, 4.26. Fine to brilliant.

Lot D (now E. T. N.). Gr. 4.27. Brilliant. [Pl. XV. 14.]

Series III (= B. M. Cat. Class I b).

Mint "A".

161-251. Drachms. *Ibid.*, p. 30, nos. 66 ff.

Diademed and armoured bust of Mithradates II to r., in dotted circle. The star on the king's breast is never present in this issue. *Rev. ΒΑΣΙΛΕΩΣ ΒΑΣΙΛΕΩΝ ΜΕΓΑΛΟΥ ΑΡΣΑΚΟΥ ΕΠΙ ΦΑΝΟΥΣ.* Arsaces, holding bow with one hand seated upon throne to r.

Lot A (twenty-two specimens, now ?).⁹ Gr. ? Mostly good.

Lot B (now E. T. N.). Gr. 4.15, 4.16, 4.19 [Pl. XVI. 2], 4.19, 4.21 [Pl. XVI. 4], 4.23, 4.24. Fine to brilliant.

Lot C (now E. T. N.). Gr. 3.93 (heavily cleaned), 4.11, 4.15, 4.16 (two), 4.17 (two), 4.18 (two), 4.19 (two), 4.20 (two), 4.21, 4.22 (three), 4.24, 4.25 (three), 4.31. Of these, three (4.17, 4.20, 4.22) have not been cleaned.

⁹ The writer saw none of these twenty-two specimens, and so it is probable that a few of them, at least, belong to Series III, Mint "B".

Lot D (now E. T. N.). Gr. 3·66 (piece broken out), 4·00, 4·04, 4·07, 4·09 (three), 4·12 (three), 4·13, 4·14, 4·15 (two), 4·16 (two), 4·17 (four), 4·18 (five) [Pl. XVI. 3], 4·19, 4·20 (two) [Pl. XVI. 1], 4·21 (three) [Pl. XVI. 5], 4·22 (two), 4·23, 4·24 (three), 4·27, 4·29, 4·33. [Pl. XVI. 6.]

Mint "B".

252-253. Drachms. Apparently unpublished.

Similar to the preceding, but the style is cruder, the relief lower, the cutting harder. A large star on the king's cuirass. *Rev.* Same inscription and type as on the preceding. Behind Arsaces, .

Lot B (now Brit. Mus.). Gr. 4·21. Slightly worn.

Lot D (now E. T. N.). Gr. 4·19. Very fine. [Pl. XVI. 7.]

254-263. Drachms.

Similar in types and style to the preceding. At times, a large star is to be seen on the king's cuirass. No letter in the reverse field.

Lot B (now E. T. N.). Gr. 4·22. Very fine.

Lot C (now E. T. N.). Gr. 4·17 (two) [Pl. XVI. 8], 4·20 (two), 4·21 (two), 4·23. Very fine to brilliant.

Lot D (now E. T. N.). Gr. 4·20 (two). Very fine to brilliant. [Pl. XVI. 9.]

Series IV (=B. M. Cat. Class II).

Mint "A".

264-275. Drachms. B. M. Cat., *Parthia*, p. 35, nos. 114-116.

Armoured bust to l. of Mithradates II wearing high tiara and diadem. The tiara is adorned with crescents and a large central star. *Rev.* ΒΑΣΙΛΕΩΣ ΒΑΣΙΛΕΩΝ ΜΕΓΑΛΟΥ ΑΡΣΑΚΟΥ ΕΠΙΦΑΝΟΥΣ. Type similar to the preceding coins.

Lot B (now E. T. N.). Gr. 4·30. Brilliant.

Lot C (now E. T. N.). Gr. 4·13, 4·16, 4·17, 4·18, 4·20. Very fine to brilliant.

Lot D (now E. T. N.). Gr. 4·16, 4·18, 4·19 (two), 4·20 (two) [Pl. XVI. 10]. Very fine to brilliant.

276-281. Drachms. *Ibid.*, p. 34, nos. 102-105.

Similar, but the tiara is adorned with star and three rows of pearls.

Lot B (now E. T. N.). Gr. 4.15, 4.22 [**Pl. XVI. 11**].
Very fine to brilliant.

Lot C (now E. T. N.). Gr. 4.02, 4.19 [**Pl. XVI. 12**],
4.22, 4.29. Very fine to brilliant.

282-288. Drachms. *Ibid.*, p. 34, nos. 106 ff.

Similar, but the bust is considerably smaller, the design and workmanship more delicate.

Lot C (now E. T. N.). Gr. 4.11, 4.12 [**Pl. XVI. 14**],
4.16 [**Pl. XVI. 13**]. Brilliant.

Lot D (now E. T. N.). Gr. 4.11, 4.15, 4.17, 4.20.
Brilliant.

Mint "B" (?).

289-292. Drachms.

Similar to nos. 259-262, but of cruder style. The tiara is adorned with star and three rows of pearls.

Lot C (now E. T. N.). Gr. 4.12, 4.20, 4.22. Very fine to brilliant.

Lot D (now E. T. N.). Gr. 4.07. [**Pl. XVI. 15**.] Brilliant.

293-304. Drachms. *Ibid.*, p. 34, nos. 102 ff.

Similar to the preceding, nos. 264 to 292 inclusive.

As these coins were not seen by the writer, it has been impossible to divide them between the various categories which go to make up Series IV.

Lot A (nine specimens, now ?). Gr. ? Good.

Lot B (three specimens, now ?). Gr. ? Slightly worn to good.

The coin which obviously offers the surest datum for determining the date *post quem* of the hoard's burial, is the Tyrian tetradrachm, no. 48, the latest coin in the find bearing an actual date. This date, year HK (=28) of the city's autonomous era, can be definitely reckoned¹⁰ at 99-98 B.C. However, as this particular

¹⁰ B. M. Cat., *Phoenicia*, p. 350.

specimen is somewhat worn, the hoard itself must have been interred a few years later. This fact is further corroborated by the tetradrachm no. 47, whose issue is assigned in the A.J.N., vol. li, 1917, pp. 105 ff. to 108-96 B.C., the last years of the reign of Antiochus VIII, Grypus. This specimen, too, is somewhat worn. The most brilliantly preserved coins in the entire find are undoubtedly the drachms of Mithradates II, nos. 113-304 inclusive. This, together with the data supplied by the Seleucid and Tyrian coins, would indicate that the hoard must have been buried about the time of Mithradates II's death. This result is made certain by the fact that not one of the issues of any later king was present in the find, nor does it seem to have contained even a single specimen of what was apparently Mithradates' last coinage.¹¹ As that monarch died at a period subsequent to 87 B.C.,¹² the actual burial of our hoard may with confidence be placed somewhere between the two extreme limits of 90 and 85 B.C.

In the nature of things, the immediate cause of the burial can hardly be determined. Literary notices dealing with this particular period are practically nil.

¹¹ B. M. Cat., *Parthia*, pp. 35-36, nos. 117-120. Pl. VIII, 4, 5.

¹² Josephus, in his *Antiquities*, &c., xiii. 14, definitely states that Demetrius III, after being made a prisoner, was sent to Mithradates 'at that time king of the Parthians'. Since the latest known coin (Leake, *Numismata Hellenica*, p. 37. The actual coin was in the Pembroke Coll., no. 1158) of this Demetrius bears the Seleucid date EKC (or 225 A.S.), Mithradates must still have been alive in 88-87 B.C. On the other hand, his death has been assigned by Rawlinson (*A History of Parthia*, p. 76) to 89 B.C., by Wroth (B. M. Cat., *Parthia*, p. xxii) and P. M. Sykes (*A History of Persia*, p. 366) to 88 B.C., while E. Bevan (*The House of Seleucus*, vol. ii, p. 261) assigns that event to 86 B.C.

It seems apparent, however, from such material as has survived, that troublous times came upon the Parthian Empire even before the close of Mithradates' long and otherwise brilliantly successful reign. At that time, Plutarch (*Lucullus*, 36) makes mention of some civil as well as border wars, while the Epitome of Trogus Pompeius hints that upon Mithradates' death various pretenders arose and disputed the succession.¹³ In addition, we know that Tigranes now commenced his great expansion of Armenia, and annexed the Parthian provinces of Upper Mesopotamia and Media Atropatene. Rawlinson¹⁴ places these events between 92 and 83 b.c. We apparently have enough evidence upon which to hazard the suggestion that the burial was probably due to these events, or at least to their immediate effects.

Of far greater profit it will be to turn from vague conjecture to the coins themselves. The earliest coins of foreign origin in the find are the three "Alexanders". Such coins were for a long time favourites¹⁵ in the East, and continued in circulation, one might say, for centuries. It is not surprising, therefore, to find several turning up even in as late a hoard as the present one. Naturally, the coins themselves are pretty well worn. The find also contained a fairly representative series of Seleucid issues from the reign of Demetrius I down to about the actual burial date of the hoard. Particularly well represented are the issues of the great

¹³ P. Gardner, *The Parthian Coinage*, p. 7.

¹⁴ *Loc. cit.*, p. 76.

¹⁵ As shown by numerous hoards. See S. P. Noe, *A Bibliography of Greek Coin Hoards*, Numismatic Notes and Monographs, now being prepared for press.

central mint of Antioch. Seleucid issues from the Phoenician mints are represented only by specimens of Attic weight. This again is only natural as the Attic weight system, from the days of Alexander the Great, was the only one in common use in Mesopotamia and Persia. The one Tyrian tetradrachm, no. 48 (of Phoenician weight), is a pure interloper. Similar coins are very seldom found as far east as the Tigris and Euphrates valley. Somewhat surprising, in view of the fact that the hoard was unearthed in Assyria, is the comparatively small number of Seleucid issues from the once great mint at Seleucia-on-the-Tigris. It must be remembered, however, that no Seleucid coins had been struck there since its conquest by Mithradates I in 140 B.C. In the fifty-odd years since that event, it is probable that these coins had been gradually disappearing from circulation, whilst their place would be taken by the more recent issues from the still active mints of Antioch, Damascus, Ptolemais, Sidon, &c., which coins must have been coming in continuously by trade.

The Parthian drachms occurring in the hoard are exactly what one would have expected. Especially is this the case if Wroth's system of attribution of the earlier issues of the Parthian kings be accepted. In short, the hoard comes as a most welcome and indeed brilliant confirmation of his attributions, as against those of earlier writers or of Petrowicz.¹⁶ For the

¹⁶ To mention only the more recent publications: Longpérier's *Mémoires sur la Chronologie et l'Iconographie des rois parthes*, Paris, 1853-1882; Gardner's *The Parthian Coinage*, 1877; Prokesch-Osten's *Les Monnaies des rois parthes*, Paris, 1874-1875; Petrowicz, *Arsakiden-Münzen*, Vienna, 1904; and Markoff's *Unpublished Arsacid Coins* (in Russian), St. Petersburg, 1892.

presence in one and the same hoard of Parthian coins down to and including only those assigned to Mithradates II (123-87 B.C.) by Wroth, together with dated coins of Antiochus VIII (121-96 B.C.) and Antiochus IX (112-95 B.C.), and, finally, a coin of Tyre dated 99-98 B.C., definitely proves that Mithradates II, and only Mithradates II, could possibly have struck the coins attributed to him by Wroth. This one fact being satisfactorily established, the correct assignment of the earlier coins follows as a natural sequel. Here, too, the hoard sustains the sequence as adopted¹⁷ by Wroth. The coin no. 70, which he gives to Artabanus I, is only slightly more worn than the earliest issues of his successor Mithradates II, while the coins in our hoard of Phraates II, Mithradates I, and the earlier kings show increasing signs of wear. The most noticeably worn are those (nos. 50-54) with the beardless head.

The great number and unusually fine condition of the drachms of Mithradates II, as furnished by our hoard, offer an exceptional opportunity for a more intensive study of this particular denomination than has hitherto been possible. For these, Wroth's sequence has been followed as being obviously the true one. The entire group of Mithradates' drachms has been divided into four¹⁸ major series, each series

¹⁷ The word "adopted" is used advisedly, for the *sequence*, as such, had already been correctly worked out by Longpérier, *loc. cit.* It was in the correct allocation of the various series to particular rulers that the earlier writers failed.

¹⁸ Wroth's nos. 117-120 would make a fifth series. However, as stated above, none of these particular coins were in the hoard and they evidently form the last issue of Mithradates II.

being given a Roman numeral. A further close study of the drachms enables us to divide them, once more, into two distinct groups distinguished by minor differences in style, fabric, and details of design. Furthermore, there seems to be sufficient divergence in these respects to warrant the assumption that these two groups were struck in, at least, two different mints. It is, perhaps, still too early in the study of Parthian mints to suggest names, but it is most probable that one of them was situated at Seleucia ad Tigrim. This supposition, however, is not as yet susceptible of proof and, therefore, the more prosaic designations of Mint "A" and 'Mint "B" have been adopted.

Throughout the reign of Mithradates II, the coins of Mint "A" predominate. Their issue was inaugurated¹⁹ by nos. 73-109, coins of fine style and careful execution. The corresponding issues of Series I for Mint "B" are of coarser workmanship, harder and drier style, and almost invariably bear monograms or letters on obverse or reverse, sometimes on both. Other examples of Mint "B", though apparently not represented in our find, are Petrowicz, *loc. cit.*, pp. 23-24, nos. 12, 14, 15, 16, 17, 18, and 20.²⁰ Aside from criteria of style, and the presence or absence of letters

¹⁹ As a matter of fact, the two rare coins in the Petrowicz Collection, p. 20, nos. 1 and 2, with the word ΣΩΤΗΡΟΣ instead of ΕΠΙΦΑΝΟΥΣ in the inscription, opened the issues of Mithradates II. Was the former title chosen temporarily by the Babylonians to express the relief they must have felt at having been freed by Mithradates from the oppression of Himerus?

²⁰ It is quite possible that future studies may show that more than one mint really produced the coins which we have here roughly assembled under the so-called Mint "B".

and monograms, there are other means by which the two groups may be surely distinguished. For instance, the exergual line on all the coins of Mint "A" (Series I) is strongly pronounced; on those of Mint "B" (Series I) it is usually entirely absent. When it does occur, it is merely a very thin line joining the tops of the letters in the word ΕΠΙΦΑΝΟΥΣ (cf. Petrowicz, Pl. III, 5).²¹ The mantle of the seated Arsaces on the drachms of Mint "A" (Series I) is invariably ornamented with a large Υ,²² while the mantle on the coins of Mint "B" (Series I) bears only perpendicular stripes.

All the tetradrachms (nos. 73-92 incl.), judging by their style and fabric, apparently belong to Mint "A". In fact, the only known²³ tetradrachm certainly assignable to Mint "B" is the specimen now in the Hermitage at Leningrad, published by von Markoff in the Publications of the Oriental Section, Imperial Russian Archaeological Society in St. Petersburg, vol. vi, 1892, Pl. III, 12. There was no duplication of either obverse or reverse dies among the sixteen specimens from the hoard seen by the writer. This fact would argue for a much greater importance in the original tetradrachm issues of Mithradates II than the comparatively small number of known specimens would seem to indicate. On the other hand, Mithra-

²¹ Our coin, no. 110, shows that this was only a guide line to keep the letters of the inscription straight and even. An exergual line, as such, was in reality not present. No. 110 shows the guide lines at both top and bottom of all four lines of the inscription.

²² Petrowicz, *loc. cit.*, p. 23, no. 10, calls it a Ω.

²³ It is also just possible that the tetradrachm published by Gardner (*loc. cit.*, Pl. I, 18) and now in Berlin may not belong to Mint "A". Its style seems to be very rude.

dates apparently discontinued the issue of this denomination soon after the completion of Series I. Series II to V seem not to have possessed the tetradrachm, at least none have survived so far. If they had ever existed, a few would certainly have been contained in the present find.

On the coins of Series II, for both mints, Arsaces is no longer seated upon the omphalos but upon a high-backed throne instead. A peculiarity on the coins of Series II,²⁴ hitherto apparently unnoticed by numismatists, is the fact that Arsaces holds not only the bow but also the arrow. This arrow is very crudely drawn, and when only one or two coins are available for study, it might well pass unnoticed or be mistaken for an imperfection in the die cutting. It appears, however, on every one of the thirty-four specimens from the hoard in the writer's hands, on the half-dozen similar coins in his own collection, and on all of the illustrations in available publications. Obviously, the arrow is an integral portion of the design and not a flaw in the die.

Aside from a considerable divergence in style and die cutting, Series II, Mint "B", is most clearly to be distinguished from the corresponding Series of Mint "A" by the indication, for the first time, of the left forearm of the seated figure on the reverse. This detail is never present on the issues of Mint "A" but only (and that invariably) on the coins of Series II, Mint "B". On the latter, also, a crudely-drawn footstool at first makes its appearance (for instance,

²⁴ Excepting only one or two of the earliest varieties of Series II, Mint "B".

Petrowicz, Pl. III, nos. 12, 13). This footstool, however, very soon degenerates into a short line with large dots at either end. In the corresponding issues of Mint "A" the exergual line is shorter than heretofore, but never so short as this mere dash which we find between the feet of the seated figure on the coins of Mint "B". A number of the coins of Mint "A", Series II (see Pl. XV), are remarkable for the presence of a large star on the left breast of Mithradates, irresistibly reminding us of some modern decoration. This star seldom occurs in Mint "B". Various letters and monograms appear spasmodically on the issues of both mints.

In Series III, the title is changed from the simple *Βασιλεύς* to the more pretentious *Βασιλεὺς Βασιλέων*. The arrow, too, completely disappears, as does also the left forearm on the issues of Mint "B". The issues of the two mints are now much more nearly alike, while letters and monograms vanish completely from the fields of the coins. It is principally the harder, cruder drawing and flatter relief of Mint "B" coins that now serves to distinguish them from those of Mint "A". On the former, the Arsaces figure is noticeably attenuated and spindle-shanked. While the star on Mithradates' cuirass apparently disappears from the coins of Mint "A", it does still occur, once or twice, on those of "B".

With Series IV, the simple diadem hitherto worn by Mithradates is replaced by a richly ornamented helmet or tiara, adorned with a star. The issues of our two mints have now become so similar that to distinguish them is difficult in the extreme, or even quite impossible. It would seem, however, that coins

similar to the one illustrated on Pl. XVI, no. 15, are sufficiently divergent in style from the remainder to allow of their having been struck in another mint. Nos. 267-288 appear to carry on the better traditions of Mint "A". These particular issues have been divided into three groups, nos. 267-275, 276-281, 282-288, according to the ornamentations appearing on the tiara and the size of the portrait bust. These divergencies would seem to characterize successive issues. At first the large and boldly executed head and bust of the king constitute a direct carry-over from the issues of Series III. Then gradually the style becomes more delicate, the technique more refined, and the portrait bust shrinks considerably in size. The reverse dies have now become very neat in their general appearance, while the obverse dies are often, artistically, quite fine. In these respects these later issues are apparently the immediate forerunners of Mithradates' final coinage²⁵ bearing the changed inscription **ΒΑΣΙΛΕΩΣ ΒΑΣΙΛΕΩΝ ΑΡΣΑΚΟΥ ΔΙΚΑΙΟΥ ΕΥΕΡΓΕΤΟΥ ΚΑΙ ΦΙΛΕΛΛΗΝ(ΟΣ)**.

Next in importance to the definite proof (so desirably furnished by this hoard) that Wroth was entirely justified in assigning such coins as nos. 73-304 to Mithradates II, come the two extraordinary tetradrachms of Himerus. Quite aside from any interest which might attach to the unexpected existence of two such coins bearing an unpublished type, is the fact that now, by means of this very type, it can be proved not only that the shadowy Himerus existed, but also that he once actually ruled as king of Parthia

²⁵ Not represented in our hoard.

and as such struck these particular coins. These last two facts have often been brought into question by both historians and numismatists, and frequently rejected as unproven.

It was Prokesch-Osten who first assigned²⁶ a certain rare little group of silver coins to that somewhat mysterious personage, Himerus, viceroy of Babylonia under Phraates II, and later, presumably, an actual usurper of the royal title. Gardner²⁷ and Wroth²⁸ agree with Prokesch-Osten, while Petrowicz²⁹ makes the very improbable attribution to Artaxias I, king of Armenia. Among historians, both Gutschmid³⁰ and Justi³¹ doubt that Himerus had ever made himself king and so in a position to strike coins in his own name. On the other hand, Walter Otto³² and Wroth³³ designate Gutschmid's opinion as quite arbitrary. It will thus be seen how universal is the disagreement among historians and numismatists. This is due, on the one hand, to the sparseness and frequent unreliability of our sources, and on the other hand to the reluctance shown by historians to accept certain conclusions based solely on numismatic evidence. In this, it must be admitted, they are sometimes quite justified. In this particular case, the outline of Himerus's career as given by Prokesch-Osten³⁴ is largely based on unwarranted assumptions, though, in the main, his conclusions now

²⁶ *Wiener Num. Zeitschr.*, 1869, vol. i, pp. 255-256.

²⁷ *Op. cit.*, pp. 7 and 34.

²⁸ *Op. cit.*, pp. xxiii and 23, and rather doubtfully in *Num. Chron.*, 3rd Series, vol. xx, 1900, pp. 193-194.

²⁹ *Op. cit.*, p. 188.

³⁰ *Geschichte Irans*, 1888.

³¹ Geiger-Kuhn, *Grundr. d. Iran. Philol.*, ii. 500.

³² Pauly-Wissowa, vol. viii, pp. 1639-1640.

³³ *Op. cit.*, p. 194.

³⁴ *Op. cit.*, pp. 255-256.

appear to have been approximately correct. But lacking the two coins before us, it is no wonder that Gutschmid refused to accept Prokesch-Osten's overbold hypothesis.

To gain a better understanding of the situation, it will be advisable to retrace our footsteps somewhat and to learn exactly what definite information our sources are able to furnish us. This will not be burdensome as, unfortunately, our classical authorities have but seldom made any mention whatsoever of Himerus.

The most important is Justin who, in his epitome of the history by Trogus Pompeius, states³⁵ that Himerus in his youth had been the favourite (in the full and ancient sense of this term) of the Parthian king Phraates II (reigning between 136 and 128 B.C.). When Phraates was called off by a revolt of his Scythian allies from following up his great victory won over Antiochus VII, he left Himerus as his viceroy (Justin's actual term is *vicarius*) over Babylonia. While Phraates was thus absent in the East, on what turned out to be his last campaign, Himerus proceeded to lay a heavy hand upon the great cities of Babylon and Seleucia on the Tigris. He executed³⁶ or sent over into Media, to be sold as slaves, many of the leading citizens. In the course of these troubles, the market-place and half the city, together with many of the temples, were burned to the ground. In the epitome of the 42nd book of Trogus Pompeius,³⁷ we

³⁵ xlvi. 1, 3.

³⁶ Modern historians have surmised (Pauly-Wissowa, vol. viii, pp. 1638-1639) that Himerus thus carried out reprisals upon the Greek inhabitants of these cities for their recent rebellious attitude and their enthusiastic support of Antiochus VII's invasion which had taken place in the preceding year (130-129 B.C.).

³⁷ *Trog. Pomp. Prolog.*, lib. xlvi, where it says: 'ut praefectus Parthis a Phraate Mesenis bellum intulit.'

also learn that Himerus during the absence of Phraates carried on a campaign against Mesene.³⁸ Here he is styled *praefectus* or governor. From what has come down to us, therefore, of the history of the Parthians by Trogus, it seems certain that during the lifetime of Phraates, at least, Himerus had not yet aspired to the royal power.

In the fragment of the 34th book of Diodorus Siculus,³⁹ we again hear of Himerus's cruelty to the Babylonians. This passage is important because Himerus is actually styled "king": $\tauῶν Πάρθων βασιλεύς$. Finally, Athenaeus,⁴⁰ quoting Posidonius, speaks of Himerus laying greedy hands upon the wealth of certain of the Greek inhabitants of Babylonia. In this passage he is mentioned as $\tauὸν τυραννήσαντα Βαβυλωνίων$. This completes the small number of literary passages making any reference whatsoever to Himerus.⁴¹ It may thus be recognized how very slim indeed are the literary grounds for assigning coins to Himerus.

The numismatic grounds, however, are far stronger. In addition to the two new tetradrachms here published, there is another one in the British Museum.⁴² Though unfortunately somewhat worn and damaged,

³⁸ Mesene was the tract of land between Babylonia and the sea. It formed a province of the kingdom of Characene.

³⁹ Diod. Sic., xxxiv. 21.

⁴⁰ Athenaeus, xi, p. 466 b.

⁴¹ Gutschmid (*loc. cit.*, p. 79) regards the Enios of Diodorus xxxiv. 19 and Himerus as one and the same person. Other historians have not followed him in this, and for our purposes there is little need of taking this possibility into consideration.

⁴² B. M. Cat., *Parthia*, p. 23, no. 1, Pl. V, 9. Mr. Robinson informs me that he has recently seen another (also not from the present hoard) in the possession of Dr. Herzfeld.

this coin presents a portrait identical with the one appearing on nos. 71 and 72. But the British Museum specimen differs radically from the latter in its inscription—which reads ΒΑΣΙΛΕΩΣ ΑΡΣΑΚΟΥ ΕΤΤΙ ΦΑΝΟΥΣ ΦΙΛΕΛΛΗΝΟΣ—and also in its reverse type which gives us Tyche (?) instead of Dionysus as on our coins. On the other hand the three known drachms of Himerus are in style and inscriptions identical with the new tetradrachms. Their reverse type is the Nike which on our coins is borne by Dionysus in his outstretched right hand. The one in the British Museum⁴³ and the one in the Petrowicz collection⁴⁴ possess the same monogram and letter appearing on our no. 72. The Berlin specimen (formerly in the Prokesch-Osten collection⁴⁵) bears the date ΘΠΡ instead of the monogram in the exergue. This date has been, once more,⁴⁶ most kindly verified by Dr. Regling for the writer.

This date, based on the Seleucid era, is important as it proves that the entire group must have been struck in and around the year 124–123 B.C. Now this covers the last year of the reign of Artabanus I (known to some writers as Artabanus II) and the first year of Mithradates II.⁴⁷ But to neither of these kings can our coins possibly be assigned. In the first place, the portrait they bear is that of a young man, one probably in his late twenties, or, at most, in his early thirties.

⁴³ B. M. Cat., *Parthia*, p. 23, no. 2, Pl. V, 10.

⁴⁴ *Op. cit.*, p. 188, Pl. XXV, 3.

⁴⁵ Prokesch-Osten, *Les Monnaies des rois parthes*, p. 21, Pl. II, 18.

⁴⁶ Also verified for Wroth by Dr. Dressel, see *Num. Chron.*, *loc. cit.*, p. 193, note 18.

⁴⁷ Wroth, *op. cit.*, p. xxiii.

Artabanus is known to have been the brother of Phraates I and Mithradates I, sons of Phriapatius (191-176 B.C.). As the latter died in 176 B.C., Artabanus in 124-123 B.C. must have been at least fifty-three years old, and probably considerably older. Furthermore, we are now absolutely certain of the personal appearance of both Artabanus and Mithradates II. The two dated coins in the British Museum (*Parthia*, Pl. V, nos. 1 and 3) give us the features of the former. The present hoard proves, beyond the shadow of a doubt, that Wroth was correct in assigning the coins on the British Museum, Pls. VI and VII to Mithradates II. The latter king, then, as is but natural, bore a decided resemblance to his father Artabanus, and especially to his uncle and namesake, Mithradates I. To the portrait generally considered as that of Himerus, they bear not the remotest resemblance. Both Artabanus and Mithradates II wore long, thick beards. Their noses, too, were markedly large and aquiline—in striking contrast to that appearing on our coin, a nose which may be popularly designated “snub”.

It will no doubt be granted, therefore, that the portrait on the so-called Himerus coins, with its youthful appearance, its plump and somewhat voluptuous features its short, curly beard, its very *retroussé* nose, is not only utterly unlike that of Artabanus or Mithradates I, but also unlike that of any other of the Parthian kings. Diodorus (xxxiv, 21) informs us that Himerus was from Hyrcania, therefore not a real Parthian. In consequence, there is perhaps nothing so very improbable in Prokesch-Osten's surmise⁴⁸—

⁴⁸ *Op. cit.*, p. 28.

though it will always remain a surmise—that he might have been descended from one of the numerous Greek families resident in Hyrcania ever since the Macedonian occupation. Gardner boldly calls Himerus a "young Hyrcanian Greek".⁴⁹ There is, in fact, something Greek, certainly something un-oriental, in the features before us, and certainly something which marks them off from those found on the remainder of the Parthian series.

Since it is so evident that the little group of coins here being discussed cannot possibly have been struck by either Artabanus or Mithradates II, the question arises, by whom then *were* they struck? Obviously, by some third person who, believing that he could profit by the confusion arising from the sudden death of Artabanus in 124 B.C., seized upon the royal power. That this happened in the west, that is, in Babylonia, the style and fabric of the coins sufficiently proclaim.⁵⁰ This supposition is further supported by the appearance of two specimens in this Mesopotamian hoard.

In summing up by a collocation of facts gleaned from both literary and numismatic sources, we may arrive at the following conclusion. The only individual known to us from our meagre classical sources, who could possibly fill *all* of the requirements, is Himerus. From Diodorus we secure the valuable information that Himerus at one time had actually been king. Therefore, he could have struck coins. The further statement that he was a Hyrcanian by birth accounts

⁴⁹ *Op. cit.*, p. 34. Concerning large Greek colonies in Hyrcania, see also Kiessling in *Pauly-Wissowa*, vol. ix, 515.

⁵⁰ Prokesch-Osten, *op. cit.*, p. 22; also *Num. Zeitschr.*, 1869, vol. i, p. 256.

for the divergence of his features from the usual and well-known Arsacid type. We know, or can readily deduce the fact, that at this time Himerus must have been a comparatively young man. From the context of the passage in Justin we are quite justified in assuming that when Phraates II made Himerus governor of Babylonia, the latter's teens were not far behind him. This was about 129 B.C. Five years later, when our coins were struck, he could not have been over thirty—if so old—and with this fact the portrait on our coins absolutely agrees. The fact that Babylonia was the scene of Himerus's activities yet further favours the assignment of our coins to him.

Thus far we have but been following in the footsteps of our predecessors in an attempt to vindicate the attribution of nos. 71 and 72 to Himerus. We have but put their arguments in other and possibly less convincing words.

The new tetradrachms bring in an element which, to the writer's mind at least, is a conclusive factor in the entire discussion.

The reverse type of these two coins is as important as it is unusual. We have before us a bearded and therefore a male divinity, enthroned to left, wearing a high calathus upon his head and draped in long, flowing, effeminate garments. In his outstretched right hand he holds a winged victory, who is presenting him with a wreath; while in his left, he holds a cornucopiae filled with fruits. Now this seated god can only be the Asiatic Dionysus, as shown by his special attributes of the calathus, the cornucopiae, the long beard and the flowing drapery or *βαστάρα*. The presence of Nike bears out the implication conveyed by

the title *νικηφόρος*. In fact she has come to be more or less a customary adjunct on Parthian tetradrachms as shown by earlier coins of Mithradates I, Artabanus I, and even of Himerus himself (see B. M. Cat., *Parthia*, Pl. III, 1, Pl. V, 1, 2 and 9). On the other hand, Dionysus was frequently pictured in ancient myths and legends as a conquering war-god,⁵¹ and so to him, as such, the figure of Victory would not be inappropriate. On coins, the Asiatic Dionysus is seldom represented. Certainly in the Parthian series this is his first and only appearance in *any* guise. As a type, he has evidently nothing to do with the Arsacid dynasty either now or later. There must therefore be some special reason for his sudden, and ephemeral, presence in the Parthian coinage. In depicting Dionysus, it need not particularly surprise us that his Eastern form should have been chosen. But why should Dionysus have been chosen at all by Himerus in the place of the usual seated female divinity (*ἀγαθὴ τύχη?*) made familiar to us by the coins of his predecessors and by one of his own issues?

Now in the thiasos of Dionysus we know there were included, among others, the three gods of love, Eros, Pothos, and Himerus. As early as Hesiod (*Theog.* 201 f.) *καλὸς Ἰμερός* was given a place alongside Eros, the constant companion of Dionysus. On a well-known crater Himerus and Eros appear in the company of Dionysus.⁵² Furthermore, another well-known vase

⁵¹ In particular, see Diodorus Siculus, Bk. II, c. 38; Bk. III, cc. 62, 63, 64, 70 ff.; G. M. N. Davis, *The Asiatic Dionysos*, p. 9.

⁵² Daremb. et Saglio, *Bacchus*, p. 605, fig. 682; Laborde, *Vases de Lamberg*, vol. i, pl. lxxv; Dubois-Maisonneuve, *Introd. à l'étude des Vases*, pl. xxii; Müller-Wieseler, vol. ii, pl. xlvi, no. 585.

painting,⁵³ in Vienna, shows Himerus *alone* flying just above the head of Dionysus himself. The accompanying legend places the fact beyond a doubt that this is the little god Himerus himself, and none other. The god of desire (Himerus) and Dionysus are thus most closely associated. In this fact may we not see now the direct reason why the unusual type of Dionysus should have been chosen for the coinage of Himerus? Second only perhaps to Aphrodite, who but Dionysus would be the most appropriate patron god for a man with the origin, the propensities, and the very name of Himerus? This canting type, therefore, would seem to confirm *à merveille* the proposed attribution of our coins to Himerus. In the type of the seated Dionysus, we may recognize one more instance of the suggestive play on words, so beloved by the Greeks, and so often displayed in their coin types. The very pointedness of the allusion would probably in no way have troubled a man of such a character as we can readily believe Himerus to have been.

In addition to the intimate and personal application presented by the Dionysus type, it is perhaps not beyond the bounds of possibility that this god may also have had some close association with Hyrcania, the land of Himerus's birth. In the first place, we know that Hyrcania was a country famous for its truly marvellous fertility. Strabo (xi, p. 508), quoting Eratosthenes, mentions in particular the extraordinary growth of the vine in that favoured district. Furthermore, Aelian (*V. H.* III, 13) speaks of the Tapuri (*Táπουροι* or *Táπυροι*) as having been particularly

⁵³ *Annali* 1866 and Daremberg et Saglio, p. 1605, fig. 2181.

addicted to the use of wine, and the Tapuri inhabited districts comprised within Hyrcania.⁵⁴ We need not be surprised, therefore, if at times the Asiatic Dionysus had been associated with that land. For to the god Dionysus was unanimously attributed the discovery and first planting of the vine, and he was said to have taught the use of wine and the gathering of grapes. Dionysus, therefore, was invariably honoured in districts where viticulture was prevalent. For instance, because of their possession of the vine, the Oxydracae in North India claimed to be descended from Dionysus, while the presence of an abundant vine crop in India caused the statement⁵⁵ that there the Indian Dionysus discovered the use of wine and the culture of the vine. Certain it is that to the Greeks in general Dionysus was associated not only with India but also with Persia, and especially with Bactria,⁵⁶ a province bordering upon Hyrcania to the south-east. Euripides, in his prologue to the *Bacchae*, has the god tell of his Asiatic wanderings:

⁵⁴ Kiessling (see *Hyrcania* in Pauly-Wissowa, vol. ix) has clearly shown that there were both western and eastern Tapuri. The latter dwelt in the district of Nesaia (as confirmed by Eratosthenes in Strabo, c. 514, and by Dionysius the Periegete 732 ff., see Kiessling, *loc. cit.*, 484). Now the district of Nesaia or Nisibia long formed an integral portion of Hyrcania, as Strabo categorically states, c. 509 (see also Kiessling, *loc. cit.*, 455, 468-9, 478, 483, 498). The western Tapuri dwelt in the lands between Amul, Mount Demavend, and the Bay of Astrabad (Kiessling, *loc. cit.*, 481). This district in early Persian times was reckoned in Hyrcania. Later, about the period of Alexander, it became a separate province, but under the Seleucidae Tapuria was again included in Hyrcania (Kiessling, *loc. cit.*, 482).

⁵⁵ Diodorus Siculus, Bk. III, c. 63.

⁵⁶ Dionysiac types, for instance, were favourites of Bactro-Indian kings such as Pantaleon and Agathocles.

Leaving the Lydian and the Phrygian plains
 Teeming with gold, I neared the sun-scorched tracts
 Of Persia and the walls of Bactria.

Furthermore, to certain modern scholars,⁵⁷ the early home of the Aryans, originators of the worship of Dionysus, was actually "somewhere about the southern shores of the Caspian".⁵⁸ From thence this worship migrated with its Aryan votaries eastward into India, and westward into Phrygia and Europe. If this hypothesis be accepted, then most certainly we have every reason to associate a Dionysus worship with Hyrcania, a land which in early times appears to have embraced the south-eastern shores of the Caspian. In this connexion it should also be noted that Dionysiac types were later frequently used⁵⁹ on the coinage of the city of Hyrcania in Lydia, a place traditionally⁶⁰ resettled in Persian times by immigrants from the province of Hyrcania. Because of the Hyrcanian origin of Himerus, the worship of Dionysus in Hyrcania, or even his mere association with that district would seem to confirm the attribution of our two tetradrachms. Whichever explanation of their Dionysus types be accepted—and the one does not exclude the other—there would now seem to be raised from mere conjecture to certainty the long-forgotten story of a bold bid for the supreme power on the part of

⁵⁷ Among others, Gladys M. N. Davis, *The Asiatic Dionysos*, London, 1914.

⁵⁸ *Op. cit.*, p. 256.

⁵⁹ B. M. Cat., *Lydia*, p. 122, no. 2, and p. 126, no. 23. See also Mionnet, vol. iv, p. 63, nos. 335, 337.

⁶⁰ Strabo, xiii, p. 629; Pliny, v. 29, 31; Tacitus, *Ann.*, ii. 47; Steph. Byz.

Himerus, the young Hyrcanian and erstwhile favourite of a Parthian monarch.

In conclusion, we should be ungrateful indeed if we failed to record our appreciation of the ancient owner of our hoard who, unwittingly enough no doubt, was instrumental in gathering together for us so interesting and valuable an historic document as his little treasure proves to be. Whatever may have befallen him, for us it was a kind fate that eventually intervened and allowed the modern world to cull some tangible fruits from his ancient thrift.

E. T. NEWELL.

NOTE.

In returning his proofs, Mr. Newell states that he has received from M. Bourgey fifty-seven more coins, evidently from the same find. The editors have reason to believe that a large number of other pieces from the find have been acquired in Persia by a collector. In these circumstances, it seems better to postpone anything in the way of an appendix on Mr. Newell's fifty-seven new coins until the others are available for study, as it is hoped they will eventually be.

EDITORS.

XI.

THE ROMANO-CAMPAÑIAN COINAGE AND THE PYRRHIC WAR.

(See PLATE XVII.)

THE origins of Roman coinage, unlike those of Greek, lie well within the limits of our historical knowledge. We no longer trace the first asses back to Servius Tullius or even to the Decemvirs. General considerations of type and style alone lead us to a date not very far removed from 300 b.c.; and, with the Samnite wars and the extension of Roman rule over the other nations of Italy, we already stand on ground where the main boundary marks are firmly fixed. It is, therefore, matter for surprise that, in spite of all the successful labour spent on this field by scholars from Mommsen to Haeberlin, some important questions remain unsolved. There are, of course, theories that hold the field and lay claim to the authority of orthodoxy. But I hope to show in this paper that these theories are certainly erroneous in some important points, and that, after the necessary corrections have been made, our general view of the subject may need to be considerably modified. My concern will be mainly with questions of dates and mints; metrology will only be considered in the second place—not because it is not important, but because it is so difficult that we need all the help we can get before we attack it. In drawing up metrological systems for the

earliest Roman coinage, we are faced with at least three difficulties :

- (a) the difficulty of determining normal weights—particularly for the bronze, cast and struck.¹
- (b) our frequent ignorance of the relation of silver to bronze, both in coinage and in the market.
- (c) our uncertainty as to the coins that belong to the different monetary systems.

These difficulties will always remain, but there is at least a chance of dealing with them successfully, if we can find grounds other than metrological for dating and grouping our coins. Until this is done, the task is impossibly hard : how can we, for example, determine the metrological system of 268 B.C., when the denarius was introduced, until we know whether the asses, of which ten went to the denarius, were libral, semi-libral, or sextantal ?

The material with which we are to deal is fortunately accessible in a form well adapted to the needs of the student.² Our inquiry will commence with the silver and struck copper pieces, usually designated " Romano-

¹ Haeberlin, for the "Aes Grave", has done for us all that we could possibly ask to determine weights ; but even so some uncertainties remain.

² For Roman Republican Coins, see Babelon, *Description historique et chronologique des monnaies de la République romaine*, Paris, 1885, i, pp. 10 ff.; Grueber, *Catalogue of Coins of the Roman Republic in the British Museum*, London, 1910. For Romano-Campanian issues : Bahrfeldt in *Riv. Ital.* 1900, pp. 11 ff.; A. Sambon, *Les monnaies antiques de l'Italie*, tome i, Paris, 1903. For Aes Grave : Haeberlin, *Aes Grave*, Text and Plates, Frankfurt, 1910. For Coinages of Italy : *British Museum Catalogue of Greek Coins, Italy*, London, 1873; Sambon, *op. cit.* For a selection of the coins here discussed, with some valuable historical notes, see Hill, *Historical Roman Coins*.

Campanian", but will need to be extended later to survey, if only in outline, the "Aes Grave" of Rome and Italy, the earliest denarii and smaller silver coins of Rome and some of the Italian silver and copper coinages of the third century B.C.

The coins which we have to consider are those usually known as Romano-Campanian and described in Grueber's *B.M.Cat.*, Rep. II., pp. 121 ff. They comprise (a) didrachms and very rare litrae, of heavy weight, in silver, with corresponding bronze issues (Pl. XVII. 8, 9, 12). Three sets of didrachms occur :

1. *Obv.*—Head of Mars l.; oak-branch. *Rev.*—Horse's head with bridle r.: ear of corn: **ROMANO**. [Pl. XVII. 1.]
2. *Obv.*—Head of Apollo l.; **ROMANO**. *Rev.*—Free horse galloping r.; star. [Pl. XVII. 3.]
3. *Obv.*—Bust of Hercules r. with club: *Rev.*—She-wolf and twins: **ROMANO**. [Pl. XVII. 2.]

(b) didrachms of light weight, with corresponding bronze issues. (Pl. XVII. 10, 11.) Four sets of didrachms occur.

1. *Obv.*—Head of Roma r. *Rev.*—Victory standing r.. holding palm-branch and wreath: **ROMANO**. [Pl. XVII. 4.]
2. *Obv.*—Head of Mars. r.; club. *Rev.*—Free horse galloping r.; club: **ROMA**. [Pl. XVII. 6.]
3. *Obv.*—Head of Mars r. *Rev.*—Horse's head with bridle r.; sickle: **ROMA**. [Pl. XVII. 7.]
4. *Obv.*—Head of Apollo r. *Rev.*—Free horse galloping l.: **ROMA**. [Pl. XVII. 5.]

(c) didrachm of light weight, *obv.* Head of Janus, *rev.* Jupiter in quadriga r.: **ROMA** (Pl. XVII. 14), together with gold staters and half-stater, *obv.* Head of Janus, *rev.* Two soldiers swearing oath over pig: **ROMA**

(Pl. XVII. 13). With this series Grueber places a series of bronze, bearing marks of value, described in *op. cit.*, pp. 135 ff. It is with classes (*a*) and (*b*) that we are chiefly concerned.

It has been usual, since Mommsen, to assign the earliest of these silver issues, with the corresponding copper, to a date soon after 340 B.C., when Rome first interfered in Campania as protectress of the Campanian cities against the Samnites. To this period have been given the didrachms with legend **ROMANO** and heavier weight (c. 110 grains, 7.13 grammes), while most of the didrachms of reduced weight (c. 104 grains, 6.74 grammes) and legend **ROMA** (only one issue with **ROMANO**) have been placed later, after about 312 B.C. or a little earlier; one series, only, the "quadrigati" (with reverse Jupiter in quadriga), is assigned to a date well on in the third century B.C. The mint of the coins has been sought in Campania, usually in Capua itself. Sambon has criticized these views with much point and justice,³ but, as he himself is somewhat hesitating in his suggestions as to date and mint, his criticism has not received the attention it deserves. Leaving aside for the moment the "quadrigati", we will consider whether the existing view of the "Romano-Campanian" issues can stand.

(1) These issues have usually been assigned to one mint—Capua. But the style is not uniform throughout, varying from group to group, though within each group it is relatively stable. There is no trace in any

³ Sambon, *Les monnaies antiques de l'Italie*, especially pp. 423-4; cf. an article by the same author in *Riv. Ital.* 1907, pp. 355 ff. I am much indebted to both these works and in many cases rely on similar arguments.

of the groups of the peculiar style shown on the copper coins that bear the Oscan name of Capua. It is, practically speaking, incredible that all the groups should have been issued from one mint at one and the same time. Yet the interlinking of types seems to require a close chronological connexion. The alternative is to assign the different groups to different mints over a relatively short period. We will discuss this question of mint later (see Note A, below), noting for the time that the coins probably do not belong to one mint only—in any case not to Capua.

(2) If this coinage is to be assigned to the period c. 340 to 280 b.c., we have sixty of the most stirring years in Roman history to cover; for if Rome learned the art of silver coinage during the first Samnite War, it is only reasonable to suppose that she exercised it during the stress of the second and third. The moment we examine this coinage attentively, we find that it is quite inadequate for the occasion. The seven groups of didrachms might cover the period easily enough, if they could be extended in succession one after the other. But the relationship of weights and types makes such an extension in time impossible. The three heavy groups all have legend **ROMANO**; of the four light groups, one has legend **ROMANO**, three have **ROMA**. The light group with legend **ROMANO** ought then to stand midway in the series. But its types, *obv.* Head of Roma r., *rev.* Victory r. with palm-branch and wreath (Pl. XVII. 4), stand rather by themselves. And such types as head of Mars and head of Apollo on obverse and horse's head or free horse on reverse are carried on from the heavy issues before it to the light issues after it. We have just seen that

these issues probably belong to several mints; we may now add that they may be most easily assigned to a relatively short period, in order to explain the repetition of types and the close relationship of heavy and light groups.

(3) If Rome first issued silver as early as c. 340 B.C., why did she delay for seventy years before adopting the invention in the capital? No satisfactory answer has been suggested to this very difficult question. Before we tax our ingenuity to discover a cause for the delay, let us be certain that such delay took place.

It will be clear by now that the reigning theories are open to very serious criticisms. We can now pass on to a new attribution, and, in setting out the arguments in its favour, can complete our criticism of the old.

Suidas the lexicographer tells us, under the word "Moneta", that the Romans, needing money in the war against Pyrrhus, obtained it by following the advice of Juno, and that in gratitude to her they honoured her as "Moneta" and established the mint in her temple. The advice ran that "if they fought rightly, money would not fail them"—a not very enlightening counsel at first sight. As we know from Livy and Pliny that the denarius was actually introduced in 268 B.C., Suidas has evidently some historical knowledge behind him. But if the second part of his evidence means something, why should not the first part too? How did the Romans, by Juno's counsel, obtain money for the war? The chief step of other than purely military nature taken by the Romans was to form an offensive and defensive alliance with Carthage against Pyrrhus in 279 B.C. Juno ranked at

Rome as the patron goddess of Carthage, and Carthage certainly had money at her disposal. The advice of Juno, then, was that Rome should seek the alliance of Carthage and, by her help, overcome her money difficulties. To the question of the title "Moneta" we will return in a later note (Note B below).

We can now take the last step and set our feet on firm ground. The so-called "Romano-Campanian" coins that we have been discussing are nothing more nor less than the coinage of Rome in the war with Pyrrhus, issued during the alliance with Carthage and to a large extent at least by her aid. The types supply us with final proof if more is still needed. Whereas types like heads of Mars, Minerva, and Roma (**Pl. XVII.**, 1, 4, 6-8), or eagle and she-wolf and twins (**Pl. XVII.**, 2, 8) appear to be definitely Roman, and others such as dog, lion,⁴ and Pegasus (**Pl. XVII.** 9, 10, 11), that recur in "Aes Grave" issues, may have South Italian references, two of the main reverse types, horse's head and free horse (**Pl. XVII.** 1, 3, 5, 6, 12), are distinctively Carthaginian—the former, at any rate, almost exclusively so in the West.⁵ Few commentators have failed to observe this fact and to remind us of the legendary horse's head found on the site where Carthage was to be built; but all pass rapidly by, and proceed to talk of the excellence of the Campanian horse and its services to Rome. The Punic Wars have so impressed the imagination that we think of Rome and Carthage as eternal opposites and antagonists, light and dark-

⁴ But the lion too may be Carthaginian.

⁵ See Note C, below, where I attempt to show that the interpretation of the free horse on coins of about the time of Timoleon as a symbol of liberty is after all erroneous.

ness, Ormuzd and Ahriman—and forget their earlier days of trade-relationships, alliances, and friendship. What we have here may almost be called an alliance coinage. The Roman element predominates, because the coins were struck, where the fighting lay, in the Roman sphere in Italy. It is hardly to be doubted that Carthage helped to supply the bullion.

There is a close relationship of types and style between the Romano-Campanian issues and the coins of various South Italian communities. If our coinage, in fact, is Pyrrhic, a great mass of this other coinage must be Pyrrhic too. We shall come back to this point towards the end of our paper. For the moment we will only glance at a few connexions of this kind which have a direct bearing on the date. The head of Mars l. on one of the heavy didrachms is unmistakably derived from the head of Leucippus on coins of Metapontum. These latter coins were previously dated as early as about 340 b.c., but, as my colleague Mr. E. S. G. Robinson tells me, the evidence of a recent find suggests a date at least twenty-five years later. Though this particular connexion, then, cannot be claimed as evidence in favour of a Pyrrhic date, it is not at all decisively against one. Other connexions favour our view. The copper coin of Beneventum (**BENVEN-TOD**), both by its style and by its types, head of Apollo and free horse (Pl. XVII. 17), strongly reminds us of the Romano-Campanian didrachms. This coin cannot be earlier than 268 b.c., the year in which the old ill-omened name of Maleventum was transmuted into the auspicious Beneventum in honour of the decisive victory over Pyrrhus near the town. The types, head of Mars and horse's head, were adopted on coins of

Cosa. If, as is now generally supposed, this is Cosa in Etruria, which was founded by Rome as a colony in 273 b.c., the adoption of types of the Pyrrhic war for a colony largely composed of veterans of that war is at once intelligible. It was perhaps through Cosa that these types reached North Italy, to be imitated there by the Gauls—if indeed we are right in describing the barbarous imitations of the “Romano-Campanian” silver as Gallic (Pl. XVII. 16).

The metrological question is too large a one to be considered fully here (but see below Note D). The reduction in the weight of the “Romano-Campanian” didrachms finds its parallel in a rather larger reduction in the weight of the didrachms of Tarentum and other South Italian towns. Evans in his “Horsemen of Tarentum” (p. 138 f.) has placed this reduction at Tarentum in the Pyrrhic war, though, rather curiously, he finds drachms of reduced weight in his previous period (VI.—302–281 b.c.). My suggestion is that both reductions, Tarentine and Romano-Campanian, belong to the time of the Pyrrhic war and were occasioned by it. After one party—perhaps Tarentum—had taken the first step and inflated its coinage, by reducing the weight of its standard piece, the other party naturally followed the lead. It was probably military, and not metrological, considerations that prompted the reduction in each case. It is highly probable *a priori* and it is confirmed by finds that the Tarentine and “Romano-Campanian” didrachms circulated side by side.

The evidence of finds, if capable of exact interpretation, should be decisive of the question of date. Unfortunately, however, the coins with which our

issues are found are practically speaking always undated themselves, and our coins, dated on the old theory, have been used to date them. To take one example, Evans (*op. cit.*, p. 93) quotes a find of coins near Beneventum, in which Tarentine and other South Italian coins were found together with "Romano-Campanian". The latest of the Tarentine coins in this find he assigns to his fifth period, ending 302 b.c. We saw above that Evans places drachms of reduced weight in Period VI (302-281 b.c.), while he reserves the reduced didrachms for Period VII (Pyrrhus). It is hard to resist the suspicion that the Beneventum find was really Pyrrhic, but that Evans, misled by the supposed certain date of the "Romano-Campanian" silver, has been forced to place it some thirty years too early and has consequently dislocated a number of early Pyrrhic issues. The reduced drachms of Period VI are really, like the didrachms, Pyrrhic. It is with diffidence that a student of Roman coins trespasses on a domain already so well tended by an eminent Greek numismatist, but it is only just to our new theory to invite a reconsideration of the dating of coins of Magna Graecia, so far as it is bound up with that of the "Romano-Campanian" issues. There is a tendency among Greek numismatists to regard the style of the "Romano-Campanian" as too fine for so late a date as 280 b.c. But if we take the glorious gold stater of Tarentum, with the reverse, Taras imploring aid of Poseidon, as an example of the finest Greek work in Magna Graecia, c. 340 b.c., we shall surely have no difficulty in dating our coins sixty to seventy years later. I suspect that it will be found that the erroneous dating of the "Romano-Campanian"

coins has involved a similar error over almost the whole of the coinage of Southern Italy. As regards place of issue, Sambon observes, with absolute justice, that the finds do not point to an issue at Capua, or even in Campania at all. They occur more frequently in Samnium, in part of Latium, in Picenum, and in Apulia, but very often with coins of Suessa, Cales, and Teanum.⁶

We have so far left out of discussion (1) the latest class of reduced didrachms—the quadrigati,—(2) the gold coins with the oath-scene reverse, which undoubtedly go with them, and (3) the struck copper pieces, with marks of value (triens to uncia, semuncia unmarked). The “quadrigati” are a far larger and longer issue than any other of the “Romano-Campanian”: apart from a very marked development of style, there are differences in the treatment of the legend **ROMA** (incuse, semi-incuse, in relief) which enable us to group them in periods. We may well assign them a considerable term of life. They probably began to be struck soon after the end of the Pyrrhic war, possibly in 268 B.C., at the introduction of the denarius. They were still a main currency of Southern Italy in the Second Punic War, for Hannibal estimated the ransom of the prisoners of Cannae in “quadrigati”. Polybius, it is true, interprets “quadrigati” here as denarii (drachmae). But the quadriga was not a type of the denarius at this time, as Livy seems to have known, for his stock word for the denarius is “bigatus”. Presumably, then, when he uses the word “quadrigatus” here, he is preserving a genuine tradition,

⁶ Cf. Sambon, *Les monnaies antiques de l'Italie*, pp. 423 f.

which Polybius, writing at a time when denarii with quadriga on reverse were common, misunderstood.⁷ The "quadrigatus" was in weight a double victoriatus. Now, it is well known that neither the drachm of the "quadrigatus" type nor the double victoriatus is a usual issue : the former is rare, the latter only known in one specimen. It is natural, then, to associate the "quadrigatus" didrachm with the "victoriatus" drachm as whole and half pieces. It seems certain that the "quadrigatus" was struck for a long term of years after 268 B.C., though not as late as the Second Punic War ; after about 240 B.C., the half-piece, the victoriatus, may have supplanted it. The gold coins are most naturally assigned to the end of this period and celebrate the united resistance of Rome and Italy to Hannibal. The pieces marked "**XXX**" are probably all false : the mark of value is of course a terrible temptation to metrologists to believe in them, but, on purely numismatic grounds, the case for them is weak. The copper with marks of value corresponds very closely indeed to the Roman coins of the reduction (Haeberlin's earlier period, based on an "As" of half a pound). In style, too, they are most intimately connected with the struck coins of the reduction, though at Rome the struck pieces above the Sextans only appear in the later period. I can see no reason for following Haeberlin in interpreting the Roman coins of the reduction as tenths, and not twelfths, of a pound. The undoubtedly difficulties about weights which he attempts by this expedient to remove are only partially affected by it and are more easily explained on the assumption that, during a period when

⁷ Livy XXII, 52, 54, 58; Polybius VI, 58, 5.

the standard was steadily dropping, some denominations were struck more at one time, some at another. If this is so, these "Romano-Campanian" pieces must be similarly interpreted. We shall see below that the denarius was equated to ten asses probably of the semi-libral reduction (still, in name, libral asses). The denarius then, is equal to thirty trientes, the "quadrigatus" (a denarius and a half) to forty-five trientes, sixty quadrantes, ninety sextantes, and so on.

It is time now to resume our argument and state the results to which it has led us. We have seen that the hitherto accepted dating and placing of the Romano-Campanian issues involve very serious difficulties and do not take sufficient account of the evidence either of style, of types, or of relationships to other coinages. It is really based only on an unproved historical thesis, which itself involves grave constitutional difficulties; Mommsen himself (*Römisches Münzwesen*, pp. 337 ff.) explains why we should not expect Capua under Rome to issue coinage of its own. We cannot, on this theory, sketch any intelligible outline of Romano-Campanian issues, nor can we explain why silver was issued for Rome at Capua seventy years earlier than at Rome. On the other hand, the evidence of the types points strongly to relations not only with Southern Italy but also very definitely with Carthage. The types, in general, are varied and significant, not monotonous and formal. They suggest a short period of event and change rather than a long period of uneventful peace. We know that Rome and Carthage formed an offensive and defensive alliance against Pyrrhus, and a passage in Suidas suggests that the provision of coinage for Rome was one of its imme-

diate results. Connexions with other Italian issues that can be closely dated strongly confirm the Pyrrhic date of our issues. The evidence of metrology needs to be further tested, but points in the same direction. The evidence of finds, which has hitherto been interpreted on the basis of the dating which we are contesting, appears in itself to be consistent with the new dating. It appears advisable to transfer the whole of the "Romano-Campanian" issues, apart from the silver, gold, and copper above assigned to later dates, to the war with Pyrrhus, 282-272 B.C.

The time has now come to consider what effect our proposed changes of date and mint will have on other problems of early Roman coins. The introduction of the denarius in 268 B.C. will cause us no difficulty. The Romans having been driven by the needs of war to strike silver in the South of Italy very naturally carry the useful invention into the home market. The "quadrigate" didrachm is equal in weight to a denarius and a half—is in fact a double victoriatus. The exact relation of the "quadrigate" didrachm and drachm to the victoriatus itself is not yet understood; nor can we yet explain what exactly Pliny means by his statement that the victoriatus was "brought from Illyricum". When he goes on to say that it was treated *loco mercis*, i.e. as commodity, not coin, we can understand him better. Silver was still rare in the home market, consisting only of the rare early denarii; the victoriatus, and probably, if we may hazard a guess, the "quadrigatus" as well, were struck for markets abroad, in South Italy and the Adriatic. Silver was probably never common at Rome until the enormous issues of the Second Punic War.

With the "Aes Grave" we come to more serious difficulties. The reigning view, which is that put forward by Haeberlin in development of his own and earlier researches, would place the beginning of the Roman series in 338 B.C., the year of the capture of Antium; the prow of the reverse is an apt symbol of the foundation of Roman naval power. In or about 286 B.C. the weight falls to half a pound, and, in the following years, 286-268 B.C., gradually sinks towards the two-ounce or sextantal standard, which is formally instituted in 268 B.C. The pound of the "libral" series is the old Oscan pound of 272.87 grammes (4,210 grains), but in other series of "Aes Grave" quite distinct pounds appear; and, to increase the complication, in several groups beside the Roman reduced series follow on the libral. For the closer study of the whole question we must refer to Haeberlin's wonderful *Corpus*, where the issues are carefully set out and attributed and their average weights established; all we have to do here is to survey very briefly the question of their general character and date. We can at once find a "terminus ante quem" in the Second Punic War, when the last bronze of sextantal standard are found—at Rome, for example, and in the rebel cities of Campania. Now, the whole system of "Aes Grave" appears to be only an episode in coinage. The Italians, accustomed for centuries to the use of lumps of bronze ("Aes rude") as a medium of exchange, came at last to stamp their bronze and thus convert it definitely into money: the superior convenience of silver coinage, however, soon caused this heavy bronze to be superseded. Although, then, some time is required for the fall from libral to sextantal standard

and for a certain development in style and character that may be traced in some of the individual groups (e.g. the libral series of Rome), the period required need not be very long. On general grounds, a beginning near 300 B.C. is as probable as one near 340 B.C. If we accept the earlier date, the "Aes Grave" becomes the coinage, *par excellence*, of the great Samnite Wars. As far as Rome and her allies are concerned, we could easily place the coinage to suit this view; it might, however, still seem strange that Rome's only coinage in fifty years of fighting on land should bear as reverse type a prow. But where are the coins of the hostile coalitions? There is very little of the "Aes Grave" that can be proved to be independent of Rome, while a large part of it is unquestionably dependent on her. This fact is far easier to explain after the unification of Italy under Rome than before. Again, the Etruscan "Aes Grave" is of light weight and late style: it seems impossible to place it as early even as the Third Samnite War. And the native coinage of Etruria is in gold and silver; the very existence of "Aes Grave" there suggests Roman influence. These considerations, admittedly inconclusive in themselves, acquire some importance when we find the strongest reasons for thinking that Haeberlin has placed the sextantal reduction much too early; if the libral as really lasted twenty years longer than Haeberlin allows, may not his whole dating be somewhat premature? These reasons must now be stated:

(a) Pliny and Festus both tell us that the libral as was reduced to sextantal; Pliny dates the reduction to the First Punic War, Festus to the Second Punic War or the "Punic War" simply. Festus no doubt has

mistaken the war, but in spite of this error his statement and Pliny's lend each other some support.⁸

(b) Hatria, founded as a Latin colony in 282 b.c., and Ariminum, similarly founded in 268 b.c., both issue libral "Aes Grave". These issues are generally, and with strong probability, assigned to the period after the foundation. Is it probable that two colonies, founded from Rome, admittedly adopting the use of "Aes Grave" from her, should still use the libral standard when Rome herself had passed from it to the semi-libral and even to the sextantal?

We have now to add

(c) that if our dating of the Romano-Campanian silver is correct, those series of "Aes Grave", which Haeberlin⁹ has shown to be closely bound up with it, must be of Pyrrhic date too. We shall then have five distinct and important libral series dated later than Haeberlin's semi-libral reduction at Rome (286 b.c.). This would mean a very serious difficulty in his view.

The simplest plan, then, is to accept Pliny's statement as correct and to attribute the decline from the libral standard to the sextantal to the First Punic War. There is some weight of evidence for the view, and, so far as I can judge, only one definite objection to it. This must now be faced. The denarius introduced in 268 b.c. was undoubtedly made equal to ten asses. On our theory these were libral asses. How could a denarius, weighing four scruples, $\frac{1}{2}$ nd of a pound of silver, be equal to ten pounds of bronze? It would give us the equation—silver : bronze :: 720 : 1! But we

⁸ See discussion in Grueber, *B.M.C. Republican*, i, pp. xxvi ff., with quotations from the authorities.

⁹ Haeberlin, *Aes Grave*, pp. 57 ff.

have probably over-stated the case. The libral standard declined long before it was formally reduced. It is tempting to assign Haeberlin's semi-libral reduction to the year of the introduction of the denarius. This would bring the ratio down to 360 : 1. Further, silver at first seems to have played little part at Rome, and may easily have been over-valued. The decline in the weight of the bronze tended continually to decrease this over-estimate, and may perhaps have been partly due to it.

To sum up, our argument would lead us to a re-dating of the "Aes Grave" for which there is already some strong evidence. At Rome we may question if the libral as was introduced any earlier than c. 300–290 B.C. We shall suppose that, by a series of reductions more or less defined, it fell between 268 B.C. and the end of the First Punic War to a standard of two ounces. The "Aes Grave" in general will represent the coinage of Northern and Central Italy during the Pyrrhic War and following period.

Finally, what of Rome's policy towards her subjects and allies in the matter of coinage? Have we to modify our views on this subject too? Mommsen, in a powerful and strongly documented section of his *Römisches Münzreisen* (pp. 331 ff.) laid down some important principles:

(1) Before 268 B.C. Latin colonies could coin freely without restriction from the side of Rome. Citizen colonies, on the other hand, and communities of "cives sine suffragio" should, in strict theory, have no independent coinage. A few communities in Campania, notably Capua, are exceptions to this rule.

(2) After 268 B.C. Rome claimed a monopoly of

silver coinage in Italy. Even states enjoying favourable terms of alliance probably ceased to issue it. Even in bronze, Rome showed herself increasingly disposed to restrict and regulate the issues.

There appears to be a large element of permanent truth here. But, as the only coins now left to Capua are those of the revolt against Rome in the Second Punic War, we get rid of one anomaly, which troubled Mommsen himself. After 268 b.c. the Roman silver tends to dominate the market. But the north and centre of Italy were still areas of circulation of "Aes Grave", and other cities than Rome issued it. In Etruria "Aes Grave" and silver with marks of value X, V, IIV, were apparently in circulation side by side. In the south, some of the Greek cities of Magna Graecia and perhaps Naples may have continued to strike silver. The silver of reduced weight is, in our view, in no case earlier than the Pyrrhic War. Whether these reduced issues continue on till the Second Punic War is perhaps rather an open question. At Naples no reduction of weight has yet been observed, but the style of some pieces might suggest a late third century date. Mommsen's general principle, then, may, in the period immediately following 268 b.c., need qualification. For the earlier period the problem will need a slight restatement. The Greek cities of South Italy knew the use of gold and silver coinage from the sixth century, Etruria from early in the fifth. The other Italians, including Rome, may not have used coined money of any kind till circa 300 b.c., and did not use silver, to any extent, till the war with Pyrrhus.¹⁰ This

¹⁰ For a rather fuller discussion, see Note E.

period, in which Rome had as yet no pretensions to monopolize coinage, is now seen to be a short and transitional one. The adoption of money by the Italians is, in fact, hardly earlier than the unification of Italy under Rome.

As undisputed mistress of Italy Rome soon began to claim privileges of coinage, but perhaps no monopoly even of silver until the Second Punic War. The introduction of the denarius in 268 B.C. no longer appears so decisive an innovation; it was rather the "quadrigatus" and the victoriate that won the Italian markets for Rome. Only in the Second Punic War did the denarius, issued in mass, assume its unchallenged supremacy.

In conclusion, it is my pleasant duty to acknowledge with gratitude much valuable help from my colleague, Mr. E. S. G. Robinson, during the preparation of this paper.

Note A. Mints of Romano-Campanian issues.

It is only possible here to offer a tentative classification of the silver issues. The seven didrachms earlier than the quadrigatus appear to belong to at least four mints:

1. Didrachm with *obv.* Head of Mars l., *rev.* Horse's head r. [Pl. XVII. 1.]
2. Didrachm with *obv.* Head of Hercules r., *rev.* She-wolf and twins r. [Pl. XVII. 2.]
3. Didrachms with *obv.* Head of Apollo l., *rev.* Free horse r., star, and with *obv.* Head of Apollo r., *rev.* Free horse l. [Pl. XVII. 3, 5.]
4. Didrachms with *obv.* Head of Roma r., *rev.* Victory r., with *obv.* Head of Mars r., *rev.* Free horse r., and with *obv.* Head of Mars r., *rev.* Horse's head r. [Pl. XVII. 4, 6, 7.]

In Class 1 the obverse is strongly reminiscent of the head of Leucippus on coins of Metapontum: the presence of the symbol, ear of corn, on the reverse might make an attribution to that city rather attractive. But we know nothing of the attitude of Metapontum during the Pyrrhic war, and, in this uncertainty, this point must not be stressed. Class 2 is as yet in doubt—perhaps to be assigned to Magna Graecia. One might think of Heraclea, which seems to have fought at first for Pyrrhus, but in 278 b.c. to have made peace on favourable terms with Rome; but the argument from style seems against it. Class 3 shows very close resemblance of style to coins of Suessa, Nuceria (Pl. XVII. 15), Teanum, and, in a minor degree, of Arpi: an attribution to Suessa can hardly be far wrong. Class 4 may be assigned with high probability to Cales; the style is similar, and the series of symbols in the Roma-Victory issue is paralleled on the coins of Cales. The main point for our argument is that coins like the didrachms with the obverse, head of Mars r., on the one hand, and the didrachms with the obverse, head of Apollo r. or l., on the other, cannot possibly belong to the same mint. They are indeed related by reverse type, but they are separated by style; and their differing styles are repeated in the coinage of different Italian towns.

The “quadrigati” themselves appear to be very similar in style to the early Roman denarii, and were probably struck, like them, mainly in Rome.

Note B. Juno Moneta.

In a finely original paper in *Klio*, 1906 (vi), pp. 477 ff. (cp. *Num. Chron.*, 1910, pp. 1 ff., *Juno Moneta*, by

Rev. A. W. Hands), Ernst Assmann suggested that the Latin word "Moneta" was of Carthaginian origin, and was in fact derived from the word "Machanath" ("Camp"), which occurs on a class of Carthaginian coins struck for Sicily. "Moneta", then, will be a goddess associated from the first with money, brought over to Rome from Carthage, and, as one aspect of the great Carthaginian goddess, Astarte, naturally identified by the Romans with Juno. L. Furius Camillus, who in 345 b.c. vowed a temple to her in his war against the Aurunci (Livy vii. 28), was really commemorating the help, and, in particular, the financial help, which Rome was receiving from Carthage; our tradition has obscured but not quite hidden the true course of events.

This theory has not been generally accepted.¹¹ The old Roman derivation of "Moneta" from "Moneo" as meaning the "adviser" has been seriously accepted, and the rest of Assmann's arguments have been dismissed as mere guess-work. But if Assmann has already shown some reason for associating "Moneta" with Carthage in 345 b.c. and we have now found convincing reasons for associating her with Carthage in 278 b.c., is there any point in further denying the Carthaginian association? The truth about the relations of Rome and Carthage before the Punic wars was evidently forgotten later—perhaps willingly forgotten, as it can hardly have flattered Roman pride. Why the "Machanath" legend might have been selected from a number of Punic legends on coins to give a name

¹¹ Cp. 'Juno Moneta', by E. Babelon, in *Mémoires de l'Académie des Inscriptions et Belles-Lettres*, 1914, pp. 241 ff.

to the Roman goddess has not yet been explained. Whether Assmann has traced the Carthaginian association correctly in all its details is open to doubt.

Assmann adapted his theory to the view that the Roman mint was opened soon after 340 B.C. We can easily adapt it to our alternative theory, by supposing that on the earlier occasion the Carthaginians supplied coins of their own to Rome, and that it was only in the Pyrrhic War that "Moneta" taught Rome her art.

In a paper just published (*Moneta, in Werden und Werken, Festschrift für Karl W. Hiersemann*) Giesecke proposes to derive "Moneta" from " $\mu\sigma\nu\alpha\varsigma$ " ("Norm", "Unit"). I cannot accept his suggestion.

Note C. Horse's head and free horse as coin-types.

The horse, in one form or another (horse's head, free horse, horse and rider), is a very common coin-type in many parts of the Greek world. It has, however, several main centres, such as Thessaly and Africa. Africa was always famous for its cavalry, and Carthage, in particular, used a horse's head as a badge—in allusion to her foundation legend. Types of the horse are common at nearly all periods of Carthaginian coinage, even down to the Vandals. Numidia naturally followed a similar course. Apart from these states, the horse only occurs sporadically as a coin-type in the West. Our object here is to show that the majority of the sporadic types are due to African, that is, normally Carthaginian influence. We include such types as free horse, horse's head, with or without bridle, fore-part of horse, excluding "rider" types, which appear to have a different history.

In Sicily the free horse occurs on a group of coins of the early decline, which Head has attributed to the time of Timoleon, interpreting the free horse as a type of liberty. To this group belong small silver coins of Agrigentum and Gela, copper of Camarina, Entella, and Gela. At Syracuse the reverse free horse is combined with obverse, ΙΕΥΣ ΕΛΕΥΘΕΡΙΟΣ. A bridled horse occurs on copper of Agyrrhium and copper with legend KAINON of the early decline. Other occurrences are on archaic silver of Gela, on gold (the 50 litra piece) of Dionysius I, on copper of Hiero II, and on late silver of Syracuse, with obverse Janiform head.

Most of these issues can only be dated roughly and the interpretation of their types is correspondingly hard. But, if we glance at the periods in which Carthaginian pressure on Sicily was strongest—the age of Dionysius I, the age of Timoleon, the First and Second Punic War—we find in each the types of the horse duly appearing in Sicilian coinage. I say nothing of the period of Gelo, as the coin evidence here is slight; archaic coins of Gela with horse types might belong here. When Timoleon came to deliver Sicily from Carthage, the Greeks, as is evident from their own tradition, were very near complete collapse. The horse types of this period represent the growing Carthaginian influence. At Syracuse, in particular, the type with obverse of Zeus Eleutherios hints at the plan of expelling Dionysius II by Carthaginian aid. The interpretation of the free horse as, in itself, a type of freedom is fanciful and needs confirmation: its use as a type of Carthage is securely established. Earlier, in the days of Dionysius I, Carthage had come within an ace of conquering Sicily. Here again the mark of

Carthaginian influence invades the coinage of Syracuse herself. Grose, in *Num. Chron.*, 1916, pp. 216 ff., has proved from overstrikes that copper of Entella, formerly dated *circa* 340, must be redated to *circa* 400, and it is possible that other issues need to be similarly transferred. The copper of Hiero II will belong to his early days of alliance with Carthage, the late silver of Syracuse with obverse Janiform head, as that type in itself suggests, to the period of the Second Punic War. The horse's head appears to occur only on copper of Tyndaris, where the reference to Carthage is indisputable.

The Sicilian coinage hints very broadly at some painful truths to which Greek historians naturally gave little prominence. The position of the Greeks in Sicily, seldom, if ever, united among themselves, was precarious in the extreme. From about 406-340 b.c. Sicily was, with short intermissions under Dionysius I, little better than a Carthaginian province. It has been observed that for a period in the early fourth century there are apparently no tetradrachms of Syracuse. At about the same time we find plentiful issues of Siculo-Punic coins, with the Syracusan obverse, Arethus and dolphins. Opinions as to the artistic merits of these coins vary, but it may safely be said that it is easier to regard them as the slightly careless work of Syracusan engravers than as imitations made by alien artists. The most natural conclusion seems to be that Syracuse was for a time a tributary to Carthage.

In Italy the free horse occurs in our "Romano-Campanian" issues, on copper of Beneventum, Calatia, Grumum, Salapia, and Thurii, on late silver and copper of Tarentum. In the series of "Aes Grave" it is the

obverse of the triens in the Latin "wheel" series, the reverse of the as of Luceria, with obverse head of Apollo. All these issues appear to belong to the third century B.C. and to fall into an earlier and a later group, of the Pyrrhic and of the Second Punic War respectively. To the former belong our "Romano-Campanian" coins, the "Aes Grave" and some of the other copper coins; to the latter, the late coins of Tarentum, the copper of Calatia, and a few others. The free horse, unlike the man-headed bull of Naples, is not a fixed type in Italy at any one or more places; it occurs sporadically over a wide area.

The horse's head occurs in the "Romano-Campanian" series, on small silver and copper of Tarentum, on copper of Cosa and Asculum: further, on the "Aes Grave", as reverse of the uncertain as with obverse Lion's head; as obverse and reverse of the triens in the heavy "Apollo" series; as reverse of the sextans in the coinage of Velecha (obverse, head of Sol); as reverse of the as of Luceria with obverse head of Hercules. The case is the same as for the free horse. The late Tarentine coins are Hannibalic, so too the series of Velecha and possibly a coin or two more: the rest are again Pyrrhic. The fact that a bridle is sometimes added cannot be held to alter the distinctly Carthaginian character of the type.

Other types that refer to Carthage are, of course, the elephant (as on the cast copper with legend "Mel", (retrograde), struck copper of Capua, both of the Second Punic War), and, occasionally, the lion, as on copper of Capua and **M** (Mateola?), where a lion breaking a lance certainly refers to the revolt against Rome under protection of Hannibal.

In many cases, then, the Carthaginian allusion of these horse types is beyond question; in others it is possible, but not certain. Almost the only case known to me in which it is really hard to trace it is on the "Aes Grave" of Luceria, on the as of the reduced weight, with *obv.* Head of Hercules, *rev.* Free horse r.: star. This coin should be later than the Pyrrhic War, after which Carthaginian influence is hardly to be looked for at Luceria. The coin is too heavy for the Second Punic War, and Luceria did not join Hannibal. Here then is an exception, for which I have as yet no explanation to offer.

Note D. Metrology.

We must refer here to a very valuable article by Regling in *Klio*, 1906, pp. 409 ff., on the weights of early silver of South Italy, to which the notes that follow owe very much.

In Magna Graecia we find a didrachm of 8.32 gr.¹² falling slowly to 7.5 gr. (128–116 grains) by about the end of the fourth century B.C. There is also a didrachm of reduced weight, 6.3 to 6.25 gr. (97.5–96.5 grains) at Tarentum, Heraclea, Metapontum, Thurii, and perhaps also Croton.

In Campania and the adjacent regions the didrachm is a little lighter, either fairly steady at about 7.25 gr. (112 grains), as at Naples, or ranging from 7.3 to 6.9 (113–106 grains), as at Cales, Suessa, Teate, Arpi, &c. To this class belong the so-called Tarento-Campanian coins.

The "Romano-Campanian" didrachms of the heavy series correspond closely to this "Campanian" didrachm,

¹² All these weights are, of course, only approximate.

with an average of 7·14 gr. (110 grains). The reduced didrachms, at 6·54 (101 grains), are on a decidedly higher standard than the reduced didrachms of Magna Graecia.

Note E. Dates of ancient Italian coinage—other than the Greek, Roman, and Etruscan.

A careful study of this coinage has convinced me that it is mainly confined to the period from the Pyrrhic to the Second Punic War. The silver didrachms of Cales, Suessa, Nuceria, Arpi, Teanum Sidicinum are all of about the same period as our "Romano-Campanian" issues. The gold and silver of the Brettii are all of the Pyrrhus period or later.¹³ Other small silver coins of such places as Alba Fucens, Allibae, Canusium, Rubi, "Pitanatae Peripoli", the Samnites, Signia, are more difficult to date as the style is less clear. But there are no purely Italian coins that really demand a date earlier than about 300 b.c., and the evidence is quite consistent with our theory that Italy at large really learned the use of silver in the Pyrrhic War. The only coins subsequent to the Second Punic War are a number of bronze issues, mainly in the extreme south, and consisting of struck subdivisions of the as of uncial or lower standard.

Two alliance coinages in copper challenge our interest, but evade our knowledge. The types of one are *obv.* Head of Minerva, *rev.* Cock. It embraces Aquinum, Cales, Suessa, Teanum Sidicinum, Telesia, Venafrum. The types of the other are *obv.* Head of

¹³ See Regling in *Janus*, 1921, pp. 80-88. The style of the silver is remarkably similar to that of some early denarii.

Apollo, *rev.* Man-headed bull, crowned by Victory, or slight variants. It embraces Aesernia, Cales, Compulteria, Larinum, Nola, Suessa, Teanum Sidicinum, Teate, Venafrum. Neither of these series can be very far removed in time from the Pyrrhic period; the style of the second is roughly that of the copper coins of Beneventum (268 b.c. or later), that of the former possibly a little earlier.

H. MATTINGLY.

XII.

A FIND OF ROMAN COINS FROM PLEVNA
IN BULGARIA.¹

(SEE PLATES XVIII, XIX.)

THIS important hoard of Roman coins was found in an earthenware vessel by a Bulgarian peasant digging in his vineyard on the outskirts of Plevna (Pleven) in December, 1922. The total number reached 4,033—probably no more. The 700 odd coins, not included in the following lists, were all Antoniniani of the reigns of Gordian III, Philip I and II, and Trajan Decius.

The 3,296 coins actually examined and noted at the British Museum were distributed as follows:

	<i>Denarii.</i>	<i>Antoniniani.</i>
Domitian	1 . .	—
Trajan	1 . .	—
Hadrian	1 . .	—
L. Aelius Caesar	1 . .	—
Antoninus Pius	2 . .	—
Marcus Aurelius	3 . .	—
Faustina II	1 . .	—
Commodus	6 . .	—
Pertinax	1 . .	—
Albinus	2 . .	—
Septimius Severus	94 . .	—
Carried forward	113	—

¹ It is hoped that an historical study of the reign of Trajan Decius, by the same authors, based in part on this find, will appear shortly in the *Journal for Roman Studies*.

	<i>Denarii.</i>	<i>Antoniniani.</i>
Brought forward	113	
Julia Domna	43	1
Caracalla	51	4
Plautilla	4	—
Geta	22	—
Macrinus	2	—
Diadumenianus	3	—
Elagabalus	88	15
Julia Paula	1	—
Julia Maesa	41	2
Julia Soaemias	7	—
Alexander Severus	133	—
Orbiana	1	—
Julia Mamaea	28	—
Maximin I	23	—
Maximus	1	—
Balbinus	1	—
Pupienus	1	—
Gordian III	29	559
Philip I	—	305
Philip II	—	73
Otacilia Severa	—	86
Trajan Decius	—	1173
Herennius Etruscus	—	127
Hostilian	—	3
Herennia Etruscilla	—	354
"Consecration" series	—	2
	592	2,704

Total 3,296.

A summary of the individual coins, under reigns, with references to Cohen (second edition) follows:

Domitian, A.D. 81-96. C. 280 var. (TR·P· XIII on obv.).

Trajan, A.D. 98-117. C. 140.

Hadrian, A.D. 117-138. C. 1,481 var. (drapery indicated behind bust).

L. Aelius Caesar, A.D. 136-137. C. 14.

Antoninus Pius, A.D. 138-161. C. 154, 1,006.

M. Aurelius, A.D. 161–180. C. 178*, 878, 968.

Faustina II, c. A.D. 161–175. C. 16.

Commodus, A.D. 180–192. C. 190 (2), 279, 323, 358, 643.

Pertinax, A.D. 192. C. 17.

Albinus, A.D. 193–195. C. 48, 61 var. (D•CL•SEPT• on obv.).

Sept. Severus, A.D. 193–211. C. 1, 6, 21 (2), 37 var. (AVGG• on rev.), 48, 50, 70,² 96 var. (no PERT• on obv.), 102, 205 (3), 212 (2), 214, 216, 222 (3), 237 var. (IMP• XI—3), 281, 298, 304 (5), 308*, 315 (3), 321, 348, 357 (3), 363, 370, 390, 391 (2), 396 (3), 396 var. (bust draped), 397, 419 (3), 429*, 437 (2), 442 (3), 461, 469, 476, 489, 501, 517, 525 (2), 529, 531, 576, 599 (2), 606 (2), 647 (2), 670, 694 (5), 727, 731, 741, 744 (2), 777 (4), 791 (4).

Julia Domna, A.D. 193–217. C. 21, 27 (2), 32 (2), 47, 55 (2), 72*, 79 (2), 97, 101 (4), 123 (5), 137, 150, 156 (4), 164, 168 (2), 174 (2), 194*, 198, 211, 212, 221, 246 (7).

Caracalla (under Sept. Severus), A.D. 196–211. C. 64, 74, 82, 95, 154 (2), 159 (2),² 175, 179, 180 var. (ANTON on obv.), 418 (3), 420, 424, 434, 464, 498, 545 (but in silver—2), 562 (2), 566, 587(4), 588, 594, 658, 670, 682.

Emperor, A.D. 211–218. Denarii. C. 139, 150 (2), 165, 195, 211, 212, 213, 241, 242, 282, 306, 315, 359, 389, 508 (2), 613. Antoniniani. C. 244 (2), 374, 390.

Plautilla, A.D. 202–205. C. 16 (3), 21.

Geta (under Sept. Severus), A.D. 198–211. C. 35, 36, 38, 90 (3), 104 (3), 114, 117 var. (no parazonium), 139,

* Coins thus starred could not be identified with absolute certainty.

² Mint of Antioch.

157 var. (with PRINCIVVENTVTIS—3), 170, 183 (3), 206.

Emperor, A.D. 211–212. C. 68 var. (with globe), 149.

Macrinus, A.D. 217–218. C. 67, 144.

Diadumenianus, A.D. 217–218. C. 3 (3).

Elagabalus, A.D. 218–222. Denarii. C. 1 (5—all with star in field of rev.), 15 (2), 30, 32, 38 (2), 44, 50 var. (*obv. IMP·ANTONINVS PIVS AVG·—2*), 62 (5—one without star), 68, 70 (2), 79, 86 (2), 92 (7—four with star in field l., three with star in field r.), 97 (2), 109, 110, 113 var. (laureate), 134, 140 var. (laureate), 142 (2), 143 (2), 149 (3), 151 (2), 153, 184, 189 var. (undraped), 194 (2—one with star l., the other with star r.), 195 var. (undraped), 196, 201 var. (with bull and with branch instead of club—2), 205 (2), 208, 213 (6), 242 (2), 244 (3), 246 (2), 256 (3), 261 (2), 276 (2), 282, 289, 293 (2), 300 (3), 304.

Antoniniani. C. 31, 101 (2), 112, 138, 141, 145, 243, 255, 260 (2), 280 (2), 291 (2).

Julia Paula, A.D. 219–222. C. 6.

Julia Soaemias, A.D. 218–222. C. 8 (2—both with star), 14 (5).

Julia Maesa, A.D. 218–222. Denarii. C. 8 (8), 26, 29 (4), 34 (3), 36 (11), 45 (14).

Antoniniani. C. 30 (2).

Alexander Severus, A.D. 222–235. C. 9, 11, 23 (4), 28 (2), 29 (2), 32, 51 (3), 52 (4—one undraped), 70, 71 (2), 76 (2), 77, 84 (2), 90, 95 (7), 108 var. (cuirassed), 118, 161 (3), 187 (5), 196, 204, 207 (3), 218, 229, 231 (5), 236 (4), 239 (3), 249 (4), 256 (3), 258, 270 (2), 276, 281 (2), 289, 296*, 305 (2), 312 (2), 319 (2), 325* (2), 351, 364, 365 (3), 388, 391 (but Sol stands half-right),

401 (2), 409, 411, 434 var. (3—draped), 440, 448 (2),
 501 var. (3—undraped), 507, 512 (3), 530 (2), 535,
 546 (2), 556, 558 var. (the captive seated with back
 to Victory and with upraised arms), 563, 564 (5),
 566 (2), 576 (3), 585 (2), 586 (3).

Orbiana, c. A.D. 226. C. 1.

Julia Mamaea, c. A.D. 222–235. C. 5 (2), 6, 17 (6), 24
 (5), 32 (2), 35 (4), 72 (3), 81 (4), 85.

Maximin I, A.D. 235–238. C. 7 (4), 19, 31 (2), 37, 46 var.
 (*obv. IMP•MAXIMINVS PIVS AVG•*), 55, 64, 77
 (3), 85 (4), 99 (4), 107.

Maximus, A.D. 236–238. C. 10.

Balbinus, A.D. 238. C. 23 var. (Providence leans on
 column).

Pupienus, A.D. 238. C. 3.

Gordian III.³ Denarii. C. 39 (2), 69 (5), 186 (3), 234
 (4), 238 (2), 243 (4), 325 (2), 340 (4), 347, 403 (2).

Antoniniani. C. 17 (15), 22 (4), 25 (6), 41 (40), 50
 (3), 53, 62 (10), 71 (8), 81 (5), 86 (8), 92 (4), 97 (7),
 98 (31), 105 (5), 109 (28), 121 (34), 127, 130 (7), 132,
 142 (6), 155 (10), 160 (8), 162 (2), 167 (16), 173

³ The bulk of the coins of Gordian III appear to be of Rome, but one or two types of Antoniniani, notably **FORTVNA REDVX** (C. 98) and **ORIENS AVG•** (C. 167) diverge so far in style, fabric, and apparently even in metal that we are led to attribute them to local mintage--probably in the Balkans, and perhaps at Viminacium (cp. Voetter in *Num. Zeit.*, 1894, pp. 410 ff.).

A solitary coin (C. 127) appears to belong to Antioch.

The reign of Gordian III may be divided into three periods, each with its distinctive obverse legend:

(a) **IMP•CAES•M•ANT•GORDIANVS AVG•**
 (A.D. 238–239).

(b) **IMP•CAES•GORDIANVS PIVS AVG•** (A.D. 239).

(c) **IMP•GORDIANVS PIVS FEL•AVG•** (A.D. 239–244).

Of the Antoniniani in this hoard 117 belong to period (a), 7 to period (b), 435 to period (c); all the 29 denarii belong to period (c)

(13),⁴ 179 (3), 189 (3), 194 (3), 196 (4), 199 (2), 203 (2), 205 (2), 210 (7), 212, 216 (5), 237, 242, 247 (5), 250 (20), 253 (11), 261 (8), 266 (21), 272 (5), 276 (2), 296 (11), 299 (9), 302 (8), 312 (7), 313, 314 (8), 319 (17), 327 (14), 328 (2), 336 (6), 348 (12), 353 (9), 357 (8), 375, 380, 381 (14), 383 (6), 386, 388 (6), 404 (39).

The following coin is not in Cohen :

Obv. IMP·CAES·M· ANT· GORDIANVS AVG·, bust draped radiate, r.

Rev. P·M·TR·P·II COS· P·P· Gordian seated l., holding globe.

*Philip I,*⁵ A.D. 244–249. C. 3 (7), 9 (41),⁶ 12 (7),⁶ 17 (4), 25 (20), 32 (6), 33 (5), 39, 43 (12), 49, 50 (2), 54, 55 (6), 65 (3), 80 (4), 81 (3), 87 (11), 98 (2), 102 (5), 109, 114, 120 (9), 123, 124 (10), 136 (13), 137 (5), 145 (6), 165, 169 (19), 170 (10), 171 (4), 173 (3), 178 (2), 182 (6), 182 var. (on rev. stag l. and IV in ex.), 187 (2), 189, 193 (8), 198 (6), 205 (6), 209 (4), 215 (13), 223

⁴ C. 173 reads AVGST· instead of AVGSTI on rev., presumably in error.

⁵ The reign of Philip may be divided into two periods, each with its distinctive obverse legend :

(a) IMP·M·IVL·PHILIPPVS AVG· (A.D. 244–247).

(b) IMP·PHILIPPVS AVG· (A.D. 247–249).

Of the Antoniniani in this hoard 199 belong to period (a), 101 to period (b). The remaining five coins (C. 114, C. 243–245) show unusual legends which are foreign to the Roman mint : (a) IMP·C·M·IVL·PHILIPPVS P·F·AVG·P·M· (four coins); (b) IMP·IVL·PHILIPPVS PIVS FEL·AVG·P·M· (one coin). They were struck at a mint in the Balkan district, probably Viminacium (cp. again Voetter in *Num. Zeit.*, 1894, pp. 410 ff.). With the exception of these five coins and one coin (C. 39) struck at Antioch, all seem to belong to the Roman mint.

⁶ C. reads AVG· on rev. of 9 and 12, probably in error.

(3), 227 (7), 231 (2), 235 (8), 238 (2), 239, 240 (4),
241, 243 (2), 244, 245.

Otacilia Severa,⁷ A.D. 244-249. C. 4 (24—cornucopiae on
rev. sometimes single), 9, 16 (5), 17 (17), 20 (6), 39 (4),
43 (11), 53 (14), 53 var. (*obv.* M·OTACIL·SEVERA
AVG·), 63, 64 (2).

Philip II,⁸ A.D. 244-249. C. 6 (4), 13 (3), 17 (8), 23 (4),
24 var. (*rev.* PAX AETERN·), 48 (27), 48 var. (*obv.*
IMP·PHILIPPVS AVG·), 54 (6), 57 (9), 70, 72 (3),
86 var. (*obv.* IMP·M·IVL·PHILIPPVS AVG·
radiate draped r.), 88 (5).

Trajan Decius,⁹ A.D. 249-251. C. 2 (161), 4 (127), 13,

⁷ Three obverse legends occur on our coins of Otacilia:

- (a) MARCIA OTACIL·SEVERA AVG·
- (b) M·OTACIL·SEVERA AVG·
- (c) OTACIL·SEVERA AVG·

Of the Antoniniani in this hoard 15 belong to period (a), 48 to period (b), 23 to period (c). Legend (c) is certainly the last of the reign as it alone occurs with the "SAECVLARES AVGC·" type: the full legend (a) is almost certainly the earliest.

⁸ Three obverse legends occur on the Antoniniani of Philip II:

- (a) M·IVL·PHILIPPVS CAES· (A.D. 244-247).
- (b) IMP·M·IVL·PHILIPPVS AVG· (A.D. 247).
- (c) IMP·PHILIPPVS AVG· (A.D. 247-249).

Of the Antoniniani in this hoard 46 belong to period (a), 7 to period (b), 20 to period (c). Philip II was Caesar from A.D. 244-246 (August), Augustus A.D. 246-248; legend (a) thus comes first, followed by legend (b), which has a very brief life; legend (c) then completes the reign.

All our coins of Philip II appear to belong to the Roman mint.

⁹ All our coins of the reign of Trajan Decius appear to belong to the mint of Rome.

The obverse IMP·C·M·Q·TRAIANVS DECIVS AVG· occurs on all coins in our find except three, which bear the legend IMP·TRAIANVS DECIVS AVG·. Herennia Etruscilla bears throughout the title HER·ETRVSCILLA AVG·, Herennius Etruscus the title Q·HER·ETR·MES·DECIVS

16 (189), 49 (206), 63, 64 (2), 86 (177), 105 (181), 113
var. (128).

Consecration series: Nerva, C. 153, Trajan, C. 666 var.
(radiate and in silver).

Etruscilla, A.D. 249–251. C. 1.¹⁰ 17 (155), 19 (198).

Herennius Etruscus, A.D. 250–251. C. 14 (57),¹¹ 26 (46),
38 (24).

Hostilian, A.D. 250–251. C. 34 (3).

Finds of this character are by no means uncommon. At Brickendonbury¹² in Hertford were found in 1895 some 432 Roman silver coins—from Commodus to Trajan Decius; the reigns most prominently represented were those of Septimius Severus, Caracalla, Elagabalus, Severus Alexander, and Gordian III; of Trajan Decius and his family there were five coins only.¹³ In Lime Street¹⁴ were found in 1882 some five hundred or more Roman silver coins, from Commodus to Trajan Decius, distributed much as in the Brickendonbury find; there were two coins only of Trajan Decius.¹⁵ In Bulgaria (not far from Rustchuk)¹⁶ were

NOB•C, Hostilian the title C• VALENS HOSTIL•MES•
QVINTVS N•C.

See fuller discussion below.

¹⁰ This coin combines the normal *rev.* of *Etruscilla*, Pudicitia standing l., with legend of Trajan Decius, **ABVNDANTIA AVG.**

¹¹ On one specimen of C. 14 the aspergillum is placed behind the simpulum, and the staff behind the patera.

¹² *Num. Chron.*, 1896, pp. 191 ff.

¹³ The two of Trajan Decius were C. 27 and C. 86, both with *obv.* legend **IMP•C•M•Q• TRAIANVS DECIVS AVG.**

¹⁴ *Num. Chron.*, 1882, pp. 57 ff., 1883, pp. 278 ff.

¹⁵ C. 2, C. 26, one with *obv.* **IMP•C•M•Q• TRAIANVS DECIVS AVG.**, the other with *obv.* **IMP• CAE• TRA• DECIVS AVG.**

¹⁶ *Num. Zeit.*, 1918, pp. 43 ff.

found in 1916 1,602 Roman silver coins, from Trajan to Trajan Decius, again with much the same distribution; there was one coin only of Trajan Decius.¹⁷ The general picture of our hoard, then, is a familiar one. Antoniniani and denarii are found side by side, just as shillings and sixpences in English finds. The theoretical limits of such a find appear to be the years A.D. 64 to A.D. 259—Nero to Gallienus—from the reduction of the weight of the denarius to the collapse of the silver Antoninianus. Within that period all Antoniniani were, it appears, treated as of equal worth, and so too all denarii. The amazingly wide range of weights (see note at end) deserves attention. The lighter specimens here have not driven the heavier from the market. The one unusual feature in our find is the presence of a great mass of coins of Trajan Decius, all practically in mint-condition and apparently fresh from the mint.¹⁸ Virtually, the find consists of two parts—(a) a mass of coinage of the reigns of Domitian to Philip I—perhaps just touching the first issue of Trajan Decius, (b) a large consignment of coins fresh from the mint, which can only have been added to the hoard shortly before burial. Such a consignment would probably be for military purposes, and our hoard may well be a part of some military chest.

The few comments on mintage and chronology that appear necessary on the first part of the hoard are given in the foot-notes. The mint of Antioch is very feebly represented—we might well have expected more

¹⁷ C. 91, *obv. IMP·TRAIANVS DECIVS AVG·*

¹⁸ Die identities of obverse were quite common, of reverse rare; apart from absolute identities there were many cases of very close relationship of obverse die.

from it in the period of Septimius Severus. The Balkan mint (probably Viminacium) is quite strongly represented under Gordian III; under Philip the issues number only a handful. Even in the Balkans the mint of Rome dominates the market. The absence of coins of Trajan Decius of Balkan mintage is important, for it confirms in the strongest way the statement of our literary authorities that Trajan Decius was forced into rebellion by his troops and did his utmost to return to his allegiance. Only on this assumption can we explain why he struck no coins in his own name before the battle of Verona. There are no coins of Decius's eastern mint. It is rather curious that in so large a find none of the rarer personages—Gordian I and II, Sabinia Tranquillina, Pacatian—are represented at all.

The second part of the find deserves a closer study, and that along several different lines. We have first of all to attempt to fix the date of burial. Secondly, we have to investigate the light that so large a coinage from so short a period may throw on the internal working of the Roman mint. Thirdly, there are a few references in the types that require comment, and fourthly, there is the question of the occasion of the "Consecration" series, two coins of which are included in our find.

(a) *Date of burial.*—Trajan Decius uses on his Antoniniani three forms of obverse legend :

- (a) IMP• TRAIANVS DECIVS AVG•
- (b) IMP•C•M•Q• TRAIANVS DECIVS AVG•
- (c) IMP•CAE•TRA•DEC• (DECIVS) AVG•

In this find (c) is not represented at all, (a) by three

specimens only. A study of Trajan Decius's reverse types compels us to place (b) between (a) and (c). The *rev. PAX AVGVSTI* occurs with (a) and (b), never with (c). So too does the *rev. PANNONIAE*, Pannonia standing r. On the other hand the *rev. DACIA FELIX* and *PANNONIAE*—two figures standing l. and r., facing one another—occur with (b) and (c), but not with (a). There are no types that combine (a) and (c) to the exclusion of (b). A study of obverse portraits strongly confirms this view; series (b) has points of contact with both (a) and (c), but (a) and (c) have themselves very little in common. Is the order then (a) (b) (c), or (c) (b) (a)? The evidence of our find and of the others quoted above is slightly, but not decisively, for the order (a) (b) (c). We may convince ourselves that this is right by turning to the last issue of Philip and the first issue of Trebonianus Gallus. Philip's last issue clearly touches Trajan Decius's issue (a), certainly not his issue (c), while with the first issue of Trebonianus Gallus the case is just the reverse. The rare *rev. VICTORIA GERMANICA*, which is certainly late¹⁹ and probably refers to a victory over the Goths, is only found with (c).

The fact that only three coins of issue (a) occur in our find forces on us the conclusion that the special consignment of coins from the mint which we are postulating was of Trajan Decius's second issue only: for coins of *obv. (a)*, though not very common, are not nearly as rare as we should have to suppose if our find gave a true picture of the numerical proportions of issues (a) and (b). Of Herennius Etruscus we have

¹⁹ The same legend with different type is used by Herennius Etruscus as Augustus.

well over 100 coins, of Hostilian only three. Now both of the princes received the title of Caesar during A.D. 250²⁰—they certainly had it by December 16 of that year.²¹ As the issues of Hostilian are only just represented in our find, we may place its burial very soon after his appointment as Caesar, allowing, however, a little time for the coins to travel from Rome to Moesia and perhaps also for the dies to be prepared at Rome. This would give us an early date in A.D. 251 as the latest possible for the find; and, if we remember that Trajan Decius's last issue is not represented at all, it may appear better to place it at the very end of A.D. 250.²² The Gothic invasion had commenced in A.D. 250, and, as the ice allowed a passage over the Danube, may not have ceased entirely in the winter. The exact occasions on which the two princes were made Caesar is not known—the anniversary of Verona might serve for Herennius. It appears certain that Herennius received the honour first. In both cases some crisis in the war may have prompted the Emperor to strengthen his position by associating with himself his sons.

(b) The Antoniniani in this hoard, while exhibiting

²⁰ Cp. C.I.L. 5988, 5989, both of A.D. 250. In C.I.L. 4949, of the same year, Herennius Etruscus is Caesar, but not Hostilian. It is almost certain that neither had been appointed by August 30, A.D. 250; for they have no Egyptian coins of Trajan's first year, and no papyrus of that year mentions them.

²¹ Oxyrhynchus Papyri, x. 1284. Cp. also *ibid.* xii. 1450, notes.

²² This is perhaps the most probable date, but a later date is possible. If Hostilian's coins were not struck immediately on his appointment as Caesar, late in A.D. 250, and if communications between Rome and Moesia were interrupted during the Gothic war, we might even reach a date not much earlier than the death of Decius, (?) July A.D. 251.

great diversity of obverse portraiture, are extraordinarily uniform in lettering, in fabric, and in general metallic appearance. The differences are just such as one would expect to find in the different officinae of a single mint. The various styles of obverse follow in general the different reverse types. As the last two issues of the reign of Philip both show us six reverse types, struck in six officinae, we can feel fairly certain that we shall find something like the same arrangement under Trajan Decius. Our problem, then, is to trace the transition from Philip to Trajan Decius and then to follow up the history of each officina under the latter. In A.D. 248 Philip I issued a set of coins to commemorate the secular games. The types were distributed as follows:

- Officina I. Sig. I. Philip I. rev. **SAECVLARES AVGG•;**
lion.
- ,, II. ,, II. Philip I. rev. **SAECVLARES AVGG•;**
she-wolf and twins.
- ,, III. ,, III. Philip II. rev. **SAECVLARES AVGG•;**
stag l.
- ,, IV.²³ ,, IIII. Otacilia rev. **SAECVLARES AVGG•;**
Severa hippopotamus.
- ,, „ „ IV.²⁴ Philip I. rev. **SAECVLARES AVGG•;**
stag l.
- ,, V. „ V. Philip I. rev. **SAECVLARES AVGG•;**
elk.
- ,, VI. „ VI. Philip I. rev. **SAECVLARES AVGG•;**
stag l.

This coinage was followed in A.D. 248-249 by the issue:

- Officina I. Sig. A Philip I. rev. **P•M•TR•P•V•COS•III
P•P•;** Mars.

²³ This officina normally works for Otacilia Severa; coins of Philip are quite exceptional.

²⁴ V in these mint-marks has the form U.

Officina II. Sig. B Philip I. rev. **TRANQVILLITAS AVGG.**

" III. " Γ²⁵ Philip II rev. **VIRTVS AVGG.**; Mars.

" IV. " Δ Otacilia rev. **PIETAS AVGG.**
Severa

" V. " Ε Philip I. rev. **VIRTVS AVGG.**;
Emperors riding.

" VI. " Ζ Philip I. rev. **NOBILITAS AVGG.**

The system of signatures appears to have been introduced in the exceptional issue for the secular games and continued in the last issues of the reign, which refers not obscurely to the war against the rebel Trajan Decius. Why the system of mint-marks was abandoned by Trajan Decius is far from clear, the more so as it was reintroduced and made permanent within ten years of this date by Gallienus; it is hard to resist the conviction that the officinae always signed their coins—that the only difference, in fact, is between overt and secret mint-marks.

The first issue of Trajan Decius, with *obv. IMP. TRAIANVS DECIVS AVG.* includes seven reverse types—ADVENTVS AVG., DACIA, GENIVS EXERCITVS ILLYRICIANI,²⁶ PANNONIAE (single figure), PAX AVGVSTI, VICTORIA AVG., VIRTVS AVG. PANNONIAE and VIRTVS AVG. clearly belong to one officina; the remaining five types seem to stand independently. As there are six officinae in the mint, as officina III is left vacant by the absence of a prince to replace Philip II, and as officina IV, very probably, does not strike immediately for Herennia Etruscilla, we can assign an officina each to these five

²⁵ C. 88 quotes a signature O—probably only a false reading.

²⁶ Also the variants GENIVS EXERC. ILLYRICIANI and GEN.ILLYRICI (?).

independent types and the remaining one to the pair. **PANNONIAE** and **VIRTVS AVG.** show a portrait unlike any other, with a rounder head and more upright pose. It appears almost certain that these types belong to officina IV and that the unusual character of the portrait is due to artists, who were better trained in feminine than in male portraiture. The portraits that accompany **ADVENTVS AVG.** and **PAX AVGVSTI** show strong resemblances to those of Philip I in officinae II and I respectively. We are left with three officinae, III, V, and VI, and three reverse types, **DACIA**, **GENIVS EXERCITVS ILLYRICIANI**, and **VICTORIA AVG.** Officina III, which had been striking for Philip II, should betray itself by some touch of originality in the portrait of Trajan Decius. On this line of argument, we are inclined to assign to it **VICTORIA AVG.** Officinae V and VI seem, under Philip I, to have worked in close harmony and, apart from the signatures, would not always be easy to distinguish. Probably **DACIA** belongs to officina VI, **GENIVS** to V. We reach then the following tentative arrangement.²⁷

PERIOD (A).

- Officina I. **PAX AVGVSTI** [*obv. Pl. XVIII. 5.*].
- „ II. **ADVENTVS AVG.** [*obv. Pl. XV II. 1.*].
- „ III. **VICTORIA AVG.** [*obv. Pl. XVIII. 6.*].
- „ IV. **VIRTVS AVG.**, **PANNONIAE**
[*obv. Pl. XVIII. 4, 7.*].
- „ V. **GENIVS EXERCITVS ILLYRICIANI**
[*obv. Pl. XVIII. 3.*].
- „ VI. **DACIA** [*obv. Pl. XVIII. 2.*].

²⁷ All that is wanted to attain certainty is a considerable number of coins of each officina. As mules certainly occur, i. e. coins with obverse of one officina and reverse of another, any results obtained from small numbers of coins may easily mislead.

We pass on to Period (B), the period of our hoard, with *obv.* legend **IMP.C.M.Q. TRAIANVS DECIVS AVG.** Apart from a few rare types,²⁸ we find seven main types: (1) **ABVNDANTIA AVG.**, (2) **ADVENTVS AVG.**, (3) **DACIA**—in two varieties, (a) Dacia holds staff with ass's head, (b) Dacia holds standard, **DACIA FELIX**, with type (b)—(4) **GENIVS EXERC.** (rarely **EXERCITVS**) **ILLYRICIANI**, in two varieties, (a) standard r., (b) standard l., **GEN. ILLYRICI** (no standard); (5) **PANNONIAE**—three successive types—(a) single figure as in Period (A), (b) two figures, each holding standard, (c) two figures holding standard between them; (6) **VICTORIA AVG.**; (7) **VBERITAS AVG.**

There are also issues of Herennia Etruscilla, Herennius Etruscus, and Hostilian. How are we to crowd all this coinage into six officinae? To begin with Trajan Decius. (1) and (2), **ABVNDANTIA** and **ADVENTVS**, certainly go together. Four other types have already appeared in period (A) and presumably continue in the same officinae. There is one officina (I) left free for the one new type, **VBERITAS AVG.**

We have then the following scheme:

PERIOD (B).

Officina I. **VBERITAS AVG.** [Pl. XVIII. 18, 19].

„ II. **ADVENTVS AVG.** [Pl. XVIII. 10], **ABVN.
DANTIA AVG.** [Pl. XVIII. 8, 9].

²⁸ **AEQ.VITAS AVG.** (C. 9), **PIETAS AVGC.** (C. 96),
PVDICITIA AVG. (C. 98), **ROMAE AETERNAE** (C. 99),
VOTIS DECENTNALIBVS (C. 129); one or two of these types
may belong exclusively to Trajan Decius's eastern mint.

We assume with fair possibility that the successive varieties of type of **PANNONIAE**, **GENIVS**, and **DACIA** follow one another in the same officinae.

A closer classification of styles is difficult, but may be attempted thus:

Abundantia, Adventus.

	Abundantia.	Adventus.	Hybrids.
(a) large head [Pl. XVIII. 8]	24	17	—
(b) smaller head, prominent brow [Pl. XVIII. 9].	29	3	
(c) smaller head [Pl. XVIII. 10]	104	94	7 Genius 11 Victoria
	—	—	—
	157	114	18

Dacia.

	Dacia.	Hybrids.
(a) small head, short profile [Pl. XVIII. 11].	6	—
(b) as (a) but rounder features	5	—
(c) open eye, sloping profile [Pl. XVIII. 12]	23	33 Genius 1 Ubertas 1 Victoria
(d) as (c) but larger	8	1 Adventus
(e) 'Red Indian' face	14	—
(f) as (e), but shorter profile	21	1 Genius
(g) long narrow head	27	1 Pannoniae 4 Ubertas 1 Victoria
(h) as (g), straight profile	25	7 Ubertas 3 Victoria
(i) with deep line at mouth [Pl. XVIII. 13]	55	2 Adventus 17 Genius 1 Pannoniae 3 Victoria

Genius.

	Genius.	Hybrids.
(a) long head . . .	18	—
(b) long head, deep line at mouth [Pl. XVIII. 14]	1	—
(c) small head, weak mouth	50	5 Adventus 2 Dacia
		4 Ubertas 1 Victoria
(d) small head, short profile	27	—
(e) small head, weak features, low chin [Pl. XVIII. 15]	23	—
(f) small head, weak fea- tures, pointed chin .	15	—
	<hr/> 134	<hr/> 12

Pannoniae.

	Pannoniae.	Hybrids.
(a) bold round head [Pl. XVIII. 16].	. 71	1 Abundantia 1 Dacia 2 Ubertas 2 Victoria
(b) small features . . .	4	—
(c) bold long head [Pl. XVIII. 17]	98	1 Adventus 1 Dacia 2 Victoria
	<hr/> 173	<hr/> 10

Ubertas.

	Ubertas.	Hybrids.
(a) long head . . .	50	—
(b) similar, peculiar expres- sion of mouth [Pl. XVIII. 19]	21	—
(c) similar, with smaller face and features [Pl. XVIII. 18]	81	2 Abundantia 15 Genius 4 Victoria
	<hr/> 152	<hr/> 21

Victoria.

	Victoria.	Hybrids.
(a) complacent expression [Pl. XVIII. 20]	. 39	3 Adventus 2 Dacia 1 Ubertas
(b) long large head [Pl. XVIII. 21]	50	—
(c) long large head, peculiar expression	2	—
(d) straight profile, com- pressed mouth	5	—
	<hr/> 96	<hr/> 6

The coins of Herennia Etruscilla are too numerous to be assigned with any probability to one officina, and she uses as reverse types two varieties of **PVDICITIA AVG·** (Pl. XIX. 10-14, standing, Pl. XIX. 15-17, seated) and one each of **CONCORDIA AVGG·**, **FECVNNDITAS AVG· (AVGG)·**, **IVNO REGINA**. Other types appear to be rare or hybrid. She probably has a share in the officina of Otacilia Severa (IV) and in at least one other, which is probably officina VI.

A closer classification of Etruscilla's coins might be :

(1) With queue turned up, 91. 59 seated Pudicitia, 32 standing Pudicitia.

	Seated.	Standing.
Subdivisions—		
(a) small head [Pl. XIX. 10]	5 3
(b) larger profile [Pl. XIX. 13]	14 5
(c) long profile	0 14
(d) as (c) but stronger	11 9
(e) firm profile, prominent nose [Pl. XIX. 17]	29	1
	<hr/> 59	<hr/> 32

(2) Queue not turned up, hair waved, 262. 138 seated
Pudicitia, 124 standing.

	Seated.	Standing.
(a) small fine head [Pl. XIX. 15] . . .	40	60
(b) fine faint features, narrow head [Pl. XIX. 12]	0	17
(c) head firm, well-proportioned [Pl. XIX. 11]	0	10
(d) as (c) but vivacious expression [Pl. XIX. 16]	26	0
(e) pedestal neck [Pl. XIX. 14]	0	12
(f) fine head, bold forehead	0	25
(g) similar to (f), but less bold	72	0
	<hr/>	<hr/>
	138	124
	<hr/>	<hr/>
Totals (353)	197	156

Herennius Etruscus as Caesar uses a number of types: PIETAS AVGVSTORVM (Pl. XIX. 18, 19), PRINCIPI IVVENTVTIS (Pl. XIX. 20), SPES AVGSTA (Pl. XIX. 21), CONCORDIA AVGG., MARTI PROPVGNATORI, PIETAS AVGG.: other types are rare or hybrid. His coins as Augustus belong to the next period (after January 1, A.D. 251). It is probable that he struck in the officina of Philip II (III)—possibly in another: a comparison of his portraits with those of Trajan Decius with rev. VICTORIA AVG• confirms this view.

A closer classification of Etruscus's coins might be:

(1) Small heads, short profiles, 34. 31 Pietas, 3 Princeps.

	Pietas.	Princeps Iuventutis.	Spes.
(a) weak [Pl. XIX. 18]	16	—	—
(b) rather firmer . . .	10	3	—
(c) very square [Pl. XIX. 19]	5	—	—
	<hr/>	<hr/>	<hr/>
	31	3	0

(2) Long neck, narrow head, weakish features, 43.
15 Pietas, 19 Princeps, 9 Spes.

	Pietas.	Princeps	Iuventutis.	Spes.
(a) weak, small features .	7	—	—	—
(b) firmer, sloped profile .	6	—	—	—
(c) as (b) but stronger				
[Pl. XIX. 20] . . .	—	19	—	—
(d) very square . . .	2	0	9	
	—	—	—	
	15	19	9	

(3) Larger, firmer heads, 44. 9 Pietas, 22 Princeps, 13 Spes.

	Pietas.	Princeps	Iuventutis.	Spes.
(a) open-eyed .	8	—	—	—
(b) firm mouth				
[Pl. XIX. 21] —	—	14	11	
(c) as (b) but longer profile	1	8	2	
	—	—	—	
	9	22	13	
	—	—	—	
Totals (121)	55	44	22	

Hostilian, as Caesar, uses the types CONCORDIA AVGG., MARS PROP• (PROPVG.), MARTI PRO-PVGATORI, PRINCIPI IVENTVTIS (Pl. XIX. 22), PIETAS AVGG., PIETAS AVGVSTORVM, SPES PVBLICA; his coins as Augustus belong to the reign of Trebonianus Gallus. He may have struck with Herennius in officina III.

Let us test this arrangement by applying it to our hoard and seeing how many coins we are assigning to each officina.

Officina I. VBERITAS AVG•, 173.²⁹

²⁹ The numbers here given refer to styles accompanying rev. types, not to rev. types themselves.

The "Abundantia-Adventus" style (289) includes 157 Abundantia, 114 Adventus: 7 mules with Genius, 11 with Victoria.

The "Dacia" style (260) includes 184 Dacia: 3 mules with

Officina II. **ADVENTVS AVG·, ABVNDANTIA AVG·,**
289.

,, III. **VICTORIA AVG·,** 102.
Herennius Etruscus and Hostilian, 121 and
3 = 124. Total 226.

,, IV. **PANNONIAE,** 183.
Herennia Etruscilla (standing Pudicitia), 156.
Total 339.

,, V. **GENIVS EXERC· ILLYRICIANI,** 146.
Herennia Etruscilla (seated Pudicitia), 197.
Total 343.

,, VI. **DACIA,** 260.

Clearly we are not quite accurate, for the probabilities are that in a find the six officinae should be represented with approximate equality. It is probably over the coins of the Empress and the princes that we

Adventus, 51 mules with Genius, 2 with Pannoniae, 12 with
Ubertas, 8 with Victoria.

The "Genius" style (146) includes 134 Genius : 5 mules with
Adventus, 2 with Dacia, 4 with Ubertas, 1 with Victoria.

The "Pannoniae" style (183) includes 173 Pannoniae : 1 mule
with Abundantia, 1 with Adventus, 2 with Dacia, 2 with Ubertas,
4 with Victory.

The "Ubertas" style (173) includes 152 Ubertas : 2 mules with
Abundantia, 15 with Genius, 4 with Victoria.

The "Victoria" style (102) includes 96 Victoria : 3 mules with
Adventus, 2 with Dacia, 1 with Ubertas.

It must not be supposed that these styles are absolutely uniform — each can be subdivided into groups, which in some cases, such as that of Dacia, are fairly numerous ; each style denotes rather a range of portraits, which can reasonably be claimed as characteristic of one reverse. Most of the mules occur sporadically in quite small numbers : the mules of Genius *rev.* with Dacia *obv.* are, however, so plentiful as to suggest that the Genius type had been definitely transferred to the Dacia officina.

Clearly we can only expect to attain certainty in a series without mint-marks after long study has enabled us to grasp with certainty the distinguishing style of each officina.

are mostly at fault. Officinae IV and V are too full, Officinae I and III too empty, Officinae II and VI about rightly represented. The explanation probably is that we have tried to simplify matters too much. The coins of Herennia may extend over three officina, the coins of the princes over two.³⁰ And the series of the "Divi" (see below) was already perhaps beginning.

In Period (c) with *obv. IMP.CAE·TRA·DEC·(DECIVS) AVG·*, Trajan Decius has only three types in common use, **DACIA FELIX** (*obv. Pl. XIX. 2*) (rarely **DACIA**), **GEN· ILLYRICI** (*obv. Pl. XIX. 3*) (rarely **GENIVS EXERC· ILLYRICIANI**) and **PANNONIAE** (*obv. Pl. XIX. 4*), two figures holding standard between them. **DACIA** and **GENIVS** appear to belong mainly, if not entirely, to one officina—probably VI; **PANNONIAE** may be assigned as before to IV. **ABVN-DANTIA AVG·** (*obv. Pl. XIX. 1*) and **VBERITAS AVG·** are struck rarely, probably in officina II and I respectively. **VICTORIA GERMANICA** (*obv. Pl. XIX. 5*) appears to belong to officina VI. The remaining officinae are taken up by Herennia Etrusilla and the two princes, while the falling off in the types of Trajan Decius is fully compensated by the issue of the "Consecration" series.³¹ Varieties of style in that series correspond so well to varieties of style in the officinae of Trajan Decius, that we may almost regard

³⁰ When mint signatures are reintroduced under Gallienus, A.D. 257–258, Valerian I uses three officinae (II and IV, very rarely III), Gallienus two (III and V), Diva Mariniana two (V, rarely IV), Salonina two (IV and VI), Saloninus three (I, IV, V). See Voetter in *Num. Zeit.*, 1900 ff., 126 ff.

³¹ On the general question of the attribution of these coins to this reign see below.

this as sufficient evidence in itself for the attribution. The coins of Augustus and Nerva may be of officina V, those of Vespasian (Pl. XIX. 6) of VI, those of Titus of I, those of Trajan (Pl. XIX. 7), Marcus Aurelius, Commodus, and Septimius Severus of II, those of Hadrian (Pl. XIX. 8) and Antoninus Pius of IV, and those of Alexander Severus (Pl. XIX. 9) of III. Here again further study will probably lead to something like certainty in attribution.

(c) A few comments on the types of Trajan Decius and his family in this find may be relevant and enlightening. Of the types of Decius himself "Adventus Aug." commemorates the entry of the Emperor into Rome after his defeat of Philip (between Sept. 1 and Oct. 16, A.D. 249). The pacing horse is characteristic of an "Adventus", just as the prancing horse is characteristic of a "Profectio". The Emperor's right hand is raised in "Adlocutio"—or perhaps rather in acknowledgement of the plaudits of the crowd: he wears the garb of a general, which in the Early Empire—but probably no longer in the third century—must be exchanged for the toga at the entry to the city. "Abundantia Aug." and "Uberitas Aug." are companion types, and both refer to the liberality of the Emperor. "Abundantia" with her cornucopiae and grain is closely related to the earlier "Annona" types: the reference must be to distributions of corn. "Uberitas", with the purse of Mercury, the god of trade, suggests a largesse of money. This type is new under Trajan Decius and tends to supplant the "Liberalitas" types, which practically disappear after Philip I.³² "Victoria Aug.", a

³² They reappear for a moment under Valerian I and Gallienus.

Victory type of normal pattern, no doubt refers to the victory over Philip: whether the sound old tradition, that a Roman could not triumph over a fellow Roman, had still any weight is perhaps doubtful. The three remaining types are highly significant. Trajan Decius was almost the first emperor given by the armies of the Balkans to the Empire. This new development is illustrated by types glorifying the Balkan provinces and their armies.³³ The "Exercitus Illyricianus" will include the whole of the troops stationed in the Balkan district. The genius or "spirit" of this army bears the normal attributes of a genius, patera for sacrifice and cornucopiae: his military character is denoted by the standard to his l. or r., and by the "corona vallaris"³⁴ (not a modius), which he wears on his head. It might be worth inquiring, whether the great variety in the representation of the standard corresponds to the different corps included in the army of Illyricum. "Dacia" shows us a peaceful figure holding a staff with ass's head as emblem: in the later development of the type a standard takes its place. The two provinces of Pannonia (Superior and Inferior) appear as women holding standards.

The two types of Herennia Etruscilla show us two simple variants of "Pudicitia"—standing and seated, holding sceptre and drawing a veil over her face. A little reflection will show that the type must imply something more than a rather tactless compliment to

³³ Inscriptions preserve notable traces of Trajan Decius's beneficent activities in the district; cp. for example, C.I.L. iii, 4645, Suppl. 12351.

³⁴ Cp. Domaszewski, *Abhandlungen zur römischen Religion*, pp. 35 ff.

the Empress's private character. As wife of the "Pontifex Maximus", the Empress held an important position in Roman state religion, and to some extent shared the position of the vestal virgins;³⁵ it is, then, with a definitely religious significance that **PVDICITIA**, the special virtue of the vestal virgin—yet a virtue of the married woman too—is attributed to the Empress.

Of the types of Herennius Etruscus, "Pietas Augustorum" refers to the enrolment of the prince in the colleges of pontifices, augurs, and septemviri epulones (aspergillum, simpulum, capis, lituus, patera). "Spes Publica" is a normal type for the crown prince—the hope of the nation. "Principi Iuventutis" is another regular type for the prince of the blood, but not restricted to the crown prince, as its use by Hostilian shows.³⁶ Just as the Emperor was, among other things, "princeps senatus" (first senator), so the prince was "princeps iuventutis" (first of the knights). The attributes of the "Princeps Iuventutis" are always military—spear, standard, and bâton: the bâton is a special characteristic of the "princeps" and was perhaps a special badge of office.

(d) Finally we come to the series of "Consecration" coins, with *obv.* of Divus Augustus, Vespasian, Titus, Nerva, Trajan, Hadrian, Antoninus Pius, Marcus Aurelius, Commodus, Septimius Severus, and Alexander Severus, and *rev.* eagle or altar, and legend **CONSECRATIO**. It is not a complete series of the "Divi",

³⁵ For Vesta and the imperial house, cp. Ovid, *Fast.* iii. 419 ff. and iv. 697 ff., 949 ff. Further references are in B.M.C. Empire Index, vii, s.v. Vesta.

³⁶ C. and L. Caesar, Titus and Domitian had also shared the honour together.

for, not to mention less certain cases, it omits Julius Caesar, Claudius, L. Verus, and Pertinax. The series, obviously of the middle of the third century, has been variously assigned.³⁷

The old traditional attribution to Gallienus has long been recognized as impossible: the evidence of this find, which includes two of these coins, only confirms, while amplifying, that of already known finds.³⁸

The attribution to Philip I, at the time of the secular games (A.D. 248), is in itself attractive, but is unsatisfactory on grounds of style and does not suit the finds.³⁹ The attribution to Trajan Decius, which is as old as Akerman,⁴⁰ has unfortunately been neglected; yet others might have seen, what he so well observed, that there is a remarkable agreement of style between coins of the "Divi" series and the later issues of Trajan Decius.⁴¹ The occurrence of two of these coins in our find confirms the view.

Further confirmation may be derived from those hybrids which combine obverses of "Divi" with

³⁷ Cp. *Riv. It.*, 1903, pp. 195 ff., an interesting article, with good bibliography, by Solone Ambrosoli; he seems, however, to miss the main point. Cp. also *Mitt. f. Münzsamml.* 11, 12 (1924), and (advocating attribution to Decius) *Num. Zeit.*, 1924, p. 91 ff.

³⁸ Cp. *Num. Zeit.*, 1900, pp. 185 ff., one "Consecration" coin in find ending with Aemilian; *Monatsblatt der Num. Ges. in Wien*, 1917, pp. 262 f., three "Consecration" coins in find ending with Trebonianus Gallus.

³⁹ In the find of Rustchuk, 1916 (see above), there were no specimens of "Consecration" coins.

⁴⁰ Who judiciously observes that Trajan Decius may have been prompted to imitate the "Restoration" coins of his earlier namesake; see *Num. Manual*, London, 1840, p. 190.

⁴¹ The variations of portraiture in the "Divi" series correspond closely to variations of style in the officinae of Trajan Decius (see above).

reverses of Trajan Decius and Trebonianus Gallus:⁴² though we see here the possibility that the issue may have continued under Trajan Decius's successor. A glance at the history removes any lingering doubts. In A.D. 250 falls the great general persecution of the Christian Church by Trajan Decius. We may be certain that it was attended by a revival of pagan worship, and particularly of one of the latest developments of that worship, most suitable for the general use of the subjects of the empire—the worship of the deified members of the Imperial House.⁴³

NOTE ON WEIGHTS, ETC.

Below are given a few particulars of die-positions and weights of the Antoniniani in the find: the coins were weighed in lots of about 20.

GORDIAN III.

345 coins weighed 22,694 gr., average 65.78 gr. (4.26 grm.). One specimen weighed 95.2 gr. (6.17 grm.); few, if any, were lighter than about 55 gr. (3.56 grm.). Coins of "Oriens Aug." type appeared to be of a higher average—c. 72 gr. (4.67 grm.).

Die-position ↑ or ↓ (↑ predominating) sometimes slanted a little to r. or l.

PHILIP I.

133 coins weighed 8,150 gr., average 61.28 gr. (3.97 grm.). The range of variation was from 88 gr.—55 gr. (5.70 grm.—3.56 grm.), if not wider.

⁴² *Obv. DIVO AVGSTO, rev. IVNONI MARTIALI* Temple., Cohen, Augustus 578. The *rev.* of Trajan Decius, **VICTORIA AVG.**, also occurs with a "Consecration" *obv.* (reference missing).

⁴³ Possibly the ardent belief in immortality which was current in Dacia when conquered by the Romans may have something to do with the case: such beliefs often have a long life.

TRAJAN DECIUS.

1,364 coins weighed 86,747 gr., average 63·6 gr. (4·12 grm.). The highest weights noted were 94·8 gr. (6·14 grm., "Genius" reverse), 93 gr. (6·03 grm., "Victory" reverse), 98·8 gr. (6·4 grm., Herennius Etruscus), the lowest 43·4 gr. (2·81 grm., "Adventus" reverse), 34·6 gr. (2·24 grm., Herennia Etruscilla). The average of lots weighed ranged from 61·1 gr. (3·96 grm.) to 66·3 gr. (4·30 grm.).

Die position mainly ↑ or ↓.

Analyses made in the Research Department of the British Museum yielded the following results :

Coin.	Copper.	Silver.	Tin.	Gold.	
GORDIAN III					
(“Providentia Aug.”) .	72·75	25·88	0·97	0·40	100
(“Fortuna Redux”)	53·29	45·42	0·93	0·41	100·05
PHILIP I					
(“Salus Aug.”) . .	63·32	36·05	0·23	0·29	99·89
PHILIP II					
(“Principi Iuventutis”)	53·68	44·90	0·78	0·37	99·73
TRAJAN DECIUS					
(“Pannoniae”) . .	63·75	34·85	1·09	0·26	99·95
(“Abundantia Aug.”) .	56·50	42·76	0·09	0·52	99·87
(“Adventus Aug.”) .	56·42	42·47	0·77	0·36	100·02
(“Pannoniae”) . .	77·39	20·29	1·69	0·63	100·00
HERENNIA ETRUSCILLA					
(“Pudicitia”) . .	56·43	42·60	0·53	0·43	99·99
HERENNIVS ETRUSCUS					
(“Pietas Augustorum”)	55·15	43·89	0·38	0·55	99·97

The average content in silver of these ten coins is just below 38 per cent.

H. MATTINGLY.
F. S. SALISBURY.

XIII.

ANGLO-SAXON ACQUISITIONS OF THE BRITISH MUSEUM.

IV. WESSEX.

ECGBERHT TO AETHELRED I.

ECGBERHT (802-839; coinage not earlier than 825).

(The coins of this reign described below are, unless otherwise stated, from Sir A. W. Franks' gift.)

Lundonia Civitas.

323. *Obv.* — + E C G B E R H T R E X T Cross potent in beaded circle.

Rev. — + L V N D O N I A C I V I T in three lines across field, divided by two beaded lines.

AR 21·6 grs. (*Num. Chron.*, 1894, Pl. IV. 9.)

Sanctus Andreas.

324. *Obv.* — + E C G B E R H T R E Bust r. dividing inner circle.

Rev. — + S C S A N D R E A Z S A P O S T S O L V in two lines in inner circle.

AR 19·3 grs. (*Num. Chron.*, 1894, Pl. IV. 5.)

325. *Obv.* — E C G B E R H T R E Bust r. dividing circle.

Rev. — + Z C Z A N D R E A Z A cross with two limbs patté and two moline.

AR 18·4 grs. (cracked). B.M.C., No. 13 (Pl. I. 3) is a fragment of this type, from different dies.

DOROB C. monogram type (B.M.C., type i).

Biorhmod.

326-330. *Obv.* — + ECL^EBEAR HTREX

Rev. — + BIORHMODTONET^A

AR 19.3 and 19.0 grs. (latter slightly chipped) from the same obverse die.
21.6 and 20.6 grs. from the same reverse die.

16.9 grs. (slightly chipped).

331. *Obv.* — ECL^EBEAR HTREX

Rev. — + BIORHMODTONET^A

AR 18.6 grs.

332-336. *Obv.* — + ECL^EBEAR HTREX

Rev. — + BIORHMODTONET^A

AR 20.7 grs. and a broken coin from the same obverse die.

19.7 and 17.2 grs. from the same obverse die.

19.4 grs.

337. *Obv.* — As preceding.

Rev. — + BIORHMODTONET

AR 18.0 grs.

338, 339. *Obv.* — As preceding.

Rev. — + BIORHMODTONET^A

AR 19.1 and 14.6 grs. (latter chipped).

340-342. *Obv.* — + ECL^EBEAR HTREX Inscription begins to l. of bust; inner circle continued through neck of bust.

Rev. — + BIORHMODTONET^A

AR 18.7, 17.8, and 15.7 grs.

343, 344. *Obv.* — As preceding.

Rev. — + BIORHMODTONET

AR 18.6 and 18.2 grs.

345. *Obr.* — + E C C B E A R H T R Inscription begins to l. of bust, but inner circle is not continued through the neck.

Rev. — + B I O R H M O D M O N E T A

AR 19.5 grs.

Bosel.

346. *Obr.* — + E C C B E A R H T R E X

Rev. — + B O S E L M O N E T A

AR 21.6 grs.

347. *Obr.* — As preceding.

Rev. — + B O S E L M O N E T V

AR 20.4 grs. from the same reverse die as
B.M.C., No. 5.

348. *Obr.* — As preceding.

Rev. — + B O S E L M O N E T V . :

AR 22.4 grs.

349. *Obr.* — + E C C B E A R H T R E X Inscription begins to l. of bust, inner circle continued through neck of bust.

Rev. — + B O S E L M O N E T A :

AR 19.3 grs.

350. *Obr.* — From the same die as preceding.

Rev. — + B O S E L M O N E T A

AR 20.3 grs.

Dealla.

351, 352. *Obr.* — + E C C B E A R H T R E X

Rev. — + D E A L L A M O N E T A Four pellets in field in intervals of the monogram.

AR 20.6 and 19.1 grs. (latter chipped).

Deibus.

353. *Obr.* — + E C C B E A R H T R E X

Rev. — + D E I B V S M O N E T A

AR 20.1 grs.

Diormod.

354-358. *Obv.* — + E C C B E A R H T R E X

Rev. — + D I O R M O D M N E T

AR 21.7, 21.0, 20.9, 18.3, and 17.1 grs.
(the last two chipped).

359. *Obv.* — As preceding.

Rev. — + D I O R M O D M N E T

AR 21.5 grs.

360. *Obv.* — As preceding.

Rev. — + D I O R M O D M N E T :

AR 19.0 grs. (chipped).

361. *Obv.* — As preceding.

Rev. — + D I O R M O D M N E T Four pellets in field in intervals of the monogram.

AR 20.0 grs.

362. *Obv.* — As preceding.

Rev. — + D I O R M O D M N E T Two pellets in field above and below B of monogram. From the same reverse die as B.M.C., No. 6.

AR 19.6 grs. (chipped).

363. *Obv.* — As preceding.

Rev. — + D I O R M O D M N E T One pellet in field, below C of monogram.

AR 20.4 grs.

Dudinc.

364. *Obv.* — + E C C B E A R H T R E X

Rev. — + D V D I N C M O N E T A

AR 19.2 grs.

Oba.

365-368. *Obv.* — + E C C B E A R H T R E X

Rev. — + O B A M O N E T A

AR 21.8 and 19.4 grs. (the latter slightly chipped), from the same obverse die as B.M.C., No. 7.

21.2 and 20.8 grs. from the same obverse die.

369. *Ov.*—As preceding.

Rev.—+•OBĀMONETĀ•

AR 21.2 grs.

370. *Ov.*—As preceding.

Rev.—••O•B•ĀMONETĀ•

AR 17.6 grs.

Osmund.

371, 372. *Ov.*—+ECL·G·B·E·Ā·R HTREX

Rev.—+OSMVNDMONETĀ

AR 20.2 and 13.4 grs. (the latter slightly chipped), both from the same obverse die as B.M.C., No. 8.

Suefheard.

373. *Ov.*—+ECLBEĀR HTREX

Rev.—+SVAEFHEĀRDMDN

AR 21.4 grs.

374. As preceding but two pellets in field of reverse, above and below B of monogram.

AR 22.4 grs.

375. *Ov.*—+ECLBEVR HTRE

Rev.—+SPEFHEVRDMD

AR 22.0 grs.

376. *Ov.*—+ECLBEV RHTR

Rev.—+SPEFHEĀRDMD

AR 20.0 grs.

377. *Ov.*—From the same die as preceding.

Rev.—+SPEFHVRDMON

AR 19.1 grs. (chipped).

The letter in the middle of the moneyer's name is transcribed as H, for which it was doubtless intended; the position of the cross-bar varies between the horizontal and diagonal.

Tidbearht.

378, 379. *Obv.* — + E C C B E A R H T R E*Rev.* — + T I D B E A R H T : :

AR 19.5 and 20.9 grs. from the same reverse die.

380. *Obv.* — From the same die as one of the two preceding coins.*Rev.* — + T • I D B • E • A • R • H T Two pellets in field above and below B of monogram.

AR 22.2 grs.

381. *Obv.* — + E C C B E V R H T R E*Rev.* — + T I D B E A R H T

AR 20.2 grs. (slightly chipped).

382. *Obv.* — + E C C B E A R H T R E X*Rev.* — + T I D B • E • A R H T Three pellets in field either side of D and below C of monogram.

AR 19.3 grs.

Tilwine.

383, 384. *Obv.* — + E C C B E A R H T R E X*Rev.* — + T I L V V I N E M O N E T A • One pellet in field above C of monogram.

AR 20.3 and 20.0 grs. from the same obverse die.

385. *Obv.* — + E C C B E A R H T R E X*Rev.* — + T I L V V I N E M O N E T A •

AR 19.4 grs.

386. *Obv.* — + E C C B E V R H T R E*Rev.* — + T I L V V I N E M O N E T A

AR 22.8 grs.

Other types, arranged under moneyers alphabetically.

Beagmund.

387. *Obv.* — + E C G B E O R H T R E X Cross potent within inner circle.

Rev. — + B E A G T V N D M O N E T A Cross potent within inner circle (type B.M.C., xiii).

AR 20·6 grs.

388, 389. *Obv.* — As preceding.

Rev. — + B E A G T V N D M O N E T Same type.

AR 20·5 and 19·4 grs.

390. *Obv.* — As preceding.

Rev. — + B E A G T V N D M O N E Same type.

AR 19·9 grs.

391. *Obv.* — + E C G B E O R H T R E X Monogram of Λ and Λ inverted?

Rev. — + B E A G T V N D M O N E T Cross potent within inner circle (type B.M.C., xiv).

AR 19·8 grs. Montagu sale, 1895, lot 468 (illustrated); found near Godalming c. 1856. *Num. Chron.*, 1863, p. 46, and B.M.C., p. 4 (type xiv).

Diormod.

392, 393. *Obv.* — + H E C B E A R H T R E X Cross pattée within inner circle.

Rev. — + D I O R T O D M N E T Cross crosslet within inner circle (B.M.C., type x).

19·6 grs. from the same obverse die as B.M.C., No. 17.

19·8 grs.

Dunun.

394. *Obv.* — + E C G B E O R H T R E X Head r. within inner circle.

Rev. — + D V N V N M O N E T A Cross potent within inner circle (B.M.C., type v).

AR 18·2 grs. (chipped). Evans coll.

395. *Obv.*—As preceding.

Rev.—+DVNVN~~T~~ONE[~~T~~] Same type as preceding.

AR 21.6 grs. (pierced). Montagu sale 1895, lot 461.

396. *Obv.*—E~~C~~BEORHTRE Bust r. dividing inner circle and inscription.

Rev.—+DVVN~~T~~ONE[~~T~~] Cross pattée within inner circle.

AR 19.9 grs. (*Num. Chron.*, 1894, Pl. IV. 6).

Eanwold.

397. *Obv.*—+E~~C~~BEORHTREX SAX OINO RVII in three lines within inner circle.

Rev.—+E~~N~~IR~~T~~LDNO~~N~~E~~I~~ Cross pattée within inner circle (B.M.C., type xx).

AR 19.0 grs.

Ifa.

398. *Obv.*—+E~~C~~BEORHTREX SAXON cipher within inner circle.

Rev.—+IFAMONET~~A~~ Cross pattée within inner circle (B.M.C., type xviii).

AR 18.7 grs.

Oba.

399. *Obv.*—+E~~S~~BEARHTREX Cross pattée within inner circle.

Rev.—+OBATONET~~A~~ Cross pattée within inner circle.

AR 19.9 grs. (chipped).

400. *Obv.*—+EC~~C~~BEARHTREX Cross pattée within inner circle.

Rev.—+OBATONET~~A~~ Six limbs pattée issuing from central pellet; all within inner circle (B.M.C., type xv).

AR 16.3 grs.

Osmund.

401. *Obv.* — + H E C B E A R H T R E X Head r. within inner circle.

Rev. — + O S M V H D M O H E T A Cross pattée with wedge in each angle within inner circle (B.M.C., type vii).

AR 20.0 grs. Evans coll.

Redmund.

402. *Obv.* — + E C G B E R H T R E X M Cross potent within inner circle.

Rev. — + R E D M V D H M O H E T A within inner circle.

AR 20.7 grs. (*Num. Chron.*, 1894, Pl. IV. 10).

Sigestef.

403. *Obv.* — + E C G B E D R H T R E X Head r. within inner circle.

Rev. — + S I G E S T E F Cross pattée within inner circle (B.M.C., type vii).

AR 19.6 grs. Montagu sale, 1895, lot 462 (illustrated in Sainthill, *Olla Podrida*, Pl. 20, 7).

404. *Obv.* — + E C G B E D R H T R E X Cross pattée within inner circle.

Rev. — + S I G E S T E F Cross crosslet (B.M.C., type x).

AR 21.3 grs.

Tidbearht.

405. *Obv.* — + H E C B E A R H T R E X Pellet in centre of inner circle.

Rev. — + T I D B E A R H T Four wedges crosswise with pellet in centre, within inner circle.

AR 20.0 grs. (*Num. Chron.*, 1894, Pl. IV. 7).

406. *Obv.* — + H E C B E A R H T R E X Pellet in centre of inner circle.

Rev. — + T I D B E A R H T Three wedges about a pellet, within inner circle.

AR 19.9 grs. (chipped). (*Num. Chron.*, 1894, Pl. IV. 8.)

Tideman.

407. *Obv.* — + E C C R E O R H T R E X S A X O N cipher within inner circle.

Rev. — + T I D E M A N M O H E Cross pattée within inner circle (B.M.C., type xviii).

AR 19.4 grs.

408. *Obv.* — + E L G B E O R H T R E X Same type as preceding coin.

Rev. — + T I D E M A N M O N E

AR plugged and chipped. Evans coll. from Marsham sale, 1888, lot 130.

Tilred.

409. *Obv.* — + E C C B E O R H T R E X Same type as preceding coin.

Rev. — + T I L R E D M O N E T A (B.M.C., type xviii).

AR 19.7 grs. (slightly chipped).

Werheard.

410. *Obv.* — + H E C B E A R H T R E X Cross pattée over saltire pattée, in centre circle enclosing pellet; all within inner circle.

Rev. — + P E R H E A R D Cross pattée within inner circle (B.M.C., type xi).

AR 20.9 grs.

411. *Obv.* — + H E C B E A R H T R E X Six limbs pattée issuing from central pellet; all within inner circle.

Rev. — + P E R H E A R D Five limbs pattée issuing from central pellet; all within inner circle (B.M.C., type xvi, illustrated from this coin).

AR 20.1 grs. Evans coll., found in Kent.

AETHELWULF (839-858).

Type i. *Obv.* — D O R I B I cypher. *Rev.* — E A N T monogram.

Maninc.

412. *Obv.* — + E D E L V V L F + R E X

Rev. — + M A N I N C M O N E T A

AR 19.0 grs. Evans coll.

Type v. *Obv.* Cross pattée over saltire pattée.

Rev. S^AXONIORVM in three lines across field.

Manna.

413. *Obv.* — + EÐELVVL+FREX

Rev. — + MANN^AMONET^A

AR (broken). Sir A. W. Franks gift.

Osmund.

414, 415. *Obv.* — + EÐELVVLFRE:X

Rev. — + OSMVNDHONET^A

AR 19.6 grs. Evans coll. and a small fragment from Sir A. W. Franks gift.

Without moneyer's name.

416, 417. *Obv.* — + AEÐELVVLFREX

Rev. — # OCCIDENTALIVM

AR 21.0 grs. and a similar fragment Sir A. W. Franks coll.

418. Similar, but with a pellet at end of each limb of saltire on obverse.

AR broken. Evans coll.

Type not in B.M.C. (cf. types vii and viii). *Obv.* Bust r.

Rev. $\overline{\text{M}}$ and ω monogram, pellet each side.

419. *Obv.* — EÐELVVLFREX

Rev. — + BEAGM^AVND^AONE

AR 20.0 grs. Sir A. W. Franks gift.
(*Num. Chron.*, 1894, Pl. IV. 11.)

Type ix. *Obv.* Bust r. *Rev.* Cross pattée with pellet in each angle.

Beagmund.

420. *Obv.* — EÐELVVLFREX

Rev. — + BEAGM^AVND^AON

AR 19.6 grs. Sir A. W. Franks gift.

421. A fragment of similar type, but with head instead of bust.

Obv.—EÐEL[]FREX

Rev.—+BE[]VNÐMO

AR fragment. Sir A. W. Franks gift.

Type of obverse as ix (bust r.), reverse as ix a (cross pattée without pellets).

Dun.

422. *Obv.—EÐELVVLFREX*

Rev.—+DVNÐONETA

AR 21.2 grs. Sir A. W. Franks gift.

Type ix a. *Obv.* Head r. *Rev.* Cross pattée without pellets.

Beagmund.

423. *Obv.—EÐELVVLFREX*

Rev.—+BEÐGÐVNÐ

AR 19.5 grs. Sir A. W. Franks gift.

Type not in B.M.C. *Obv.* Bust r. *Rev.* Bar moline.

Beagmund.

424. *Obv.—EÐELVVLFRE*

Rev.—+BEÐGÐVNÐM

AR 18.4 grs. Sir A. W. Franks gift.
(*Num. Chron.*, 1894, Pl. IV. 12.)

425. *Obv.*—As preceding.

Rev.—+BEÐGÐVNÐMO Crescent above and below the bar.

AR 20.7 grs. Sir A. W. Franks gift.
(*Num. Chron.*, 1894, Pl. IV. 13.)

426. *Obv.*—As preceding.

Rev.—+BEÐGÐVNÐ Two pellets in place of the moline ends of the bar.

AR 17.5 grs. (chipped). Sir A. W. Franks gift.
(*Num. Chron.*, 1894, Pl. IV. 14.)

Type xi. *Obv.* Bust r. *Rev.* Cross crosslet.

Manna.

427. *Obv.* — + EÐELVLFREX

Rev. — + MÄHHAMOIIETA

AR 18.8 grs. Evans coll.

Type xvi. *Obv.* Bust r. *Rev.* Cross pattée with two
limbs crosslet.

Maninc.

428. *Obv.* — EÐELVVLFREX

Rev. — + MÄNINET

AR 16.5 grs. (slightly chipped). Montagu
sale, 1895, lot 482 (B.M.C., p. 12,
type xvi).

Type xvii. *Obv.* Bust r. *Rev.* Inscription on limbs and in
angles of headed cross.

Degbearlit.

429. *Obv.* — + KÆÐELVVLFREX

Rev. — + DEGBEAT RHT MO N E T A

AR 21.0 grs. Evans coll.

Ethelnoth.

430. *Obv.* — As preceding.

Rev. — + EÐELN OÐ MO N E T A

AR 15.7 grs. Beeston Tor find, 1924.

Type xxi. *Obv.* Cross pattée over saltire pattée.

Rev. Cross crosslet.

Beagmund.

431. *Obv.* — + EÐELVVLFREX

Rev. — + BEAGMUND

AR 20.2 grs. Evans coll.

AETHELBERHT (861-866).

Type i. *Obv.* Bust r. *Rev.* Inscription on limbs and in angles of beaded cross.

Beahmund.

432. *Obv.* — + A E D E L B E A R H T R E X

Rev. — + B E A H T V N D M O N E T A

AR 20.1 grs. Evans coll.

Ethelred.

433. *Obv.* — As preceding coin.

Rev. — + E D E L R • E D M O N E T A

AR 17.2 grs. (chipped), found at Washington
in Sussex in 1866.

AETHELRED I (866-871).

Type i. *Obv.* Bust r. *Rev.* Moneyer's name in three
lines within lunettes.

Biarnwine.

434. *Obv.* — + A E D E L R E D R E X

Rev. — B I A R N V I N E M O N E T A

AR 19.6 grs. Beeston Tor find, 1924.

Denewald.

435. *Obv.* — A D E L E R E D R E

Rev. — D E N E P A L D M O I I E T A

AR 19.6 grs. Evans coll. from the Croydon
find, 1862.

Elbere.

436. *Obv.* — + A E D E L R E D R E X From same die as B.M.C.,
No. 20.

Rev. — E L B E R E M O N E T A

AR 19.8 grs. Evans coll. from the Croydon
find, 1862.

Ella.

437. *Obv.* — As preceding coin.

Rev. — + E L L A : : M O N : : E T A

AR 18.8 grs. Beeston Tor find, 1924.

Ethelred.

438. *Obv.* — +ÆDELRED REX

Rev. — EDELRED MON ETΛ

AR 18.9 grs. Evans coll. from the Croydon find, 1862.

Lang.

439. *Obv.* — As preceding coin.

Rev. — +LĀNG MON ETΛ

AR 18.2 grs. Beeston Tor find, 1924.

Liabinc.

440. *Obv.* — As preceding coin.

Rev. — LIKBINC MON ETΛ

AR 17.6 grs. Evans coll.

Tirwulf.

441. *Obv.* — ELDEREDMXX:

Inscription begins at l. shoulder.

Rev. — TIRVLF •MON• •ETΛ•

AR 16.3 grs. Beeston Tor find, 1924.

G. C. BROOKE.

XIV.

ALEXANDER OF BRUCHSAL.

BRUCHSAL in Baden, formerly in Bavaria, is known in Old Latin documents as *Bruchsarium*, *Bruchsella*, *Brusella*, *Bruochsella*. Brussels, on the other hand, usually takes the form *Bruxella* (-ae, -um), although *Brucellae*, *Brocsela*, *Brosella*, *Brusella* are also known.¹

The fact that the engraver, whose employment at the English mint from 1494 to 1509 has been revealed to us by Mr. Henry Symonds,² is known in English documents as Alexandre de Bruchsella (v. *Bruchella*) accordingly suggested to me that he was a native not of Brussels, but of Bruchsal. It was obvious at the same time that if any one could settle this question it would be M. Victor Tourneur. An application to him met with the usual cordial and copious response. He has very kindly placed at my disposal the whole of the extracts which he has made from contemporary documents. In what follows I am doing little more than summarizing his letters of Sept. 19 and Sept. 27, 1924. The documents concerned are given at the end of the article.

Alexander was a native of Bruchsal in Bavaria, now in Baden. We know this from the register of the

¹ These are the forms recorded for the two places in Graesse's *Orbis Latinus*. There are many others, as we shall see.

² *Num. Chron.*, 1913, pp. 351-3; 1915, pp. 184-5.

Gild of St. Luke at Antwerp. There, under date 1516, among the names of masters newly admitted, we find : Meester Alexandre (van Bruxal in Beijeren) goutsmit.

This however is not his first appearance in Antwerp records. He had already purchased a house at Antwerp in the Zierickstraat on Sept. 5, 1504 (document 11); and in 1505-6 he was admitted a citizen of Antwerp (document 15; possibly this is the source of Pinchart's statement, *Rev. Num. Belge*, 1852, p. 224). From this time until 1514 M. Tourneur has found no mention of him in his documents. From Mr. Symonds we know that until 1509 he was often, if not continuously, employed in London. From 1514 onwards the documents show that he was living pretty continuously at Antwerp, buying houses and doing business on a large scale. One of the persons with whom he had dealings was Thomas Beeme, merchant of London in England (document 7 of 1521). I have no doubt that he was the rich goldsmith Alexander whom Albert Dürer tells us, in his diary, he met at dinner in May, 1521, in the house of Dietrich the glass-painter. In 1515 he was admitted to the Gild of St. Luke at Antwerp; the entry qualifies him as Meester, showing that his reputation was already made, as we can well believe if he could show the coins of Henry VII as his handiwork. From 1527 he was *doyen* of the Gild of Goldsmiths at Antwerp (document 9). He died in 1545 (document 11) leaving a widow, Johanna van Parys, and two sons, Alexander and Bernaert, and a daughter Catherine, who had married Master Peeter Petitpas.

In these documents the place of Alexander's origin is written variously *Bruessel*, *Broexele*, *Brousel*,

Brouxele, Broucxel, Brouschal, &c. In themselves these spellings do not bear out my assumption that he could not have been a native of Brussels; but that the assumption, though based on wrong premisses, was right, is shown by the already quoted entry of 1516, where he is described as a native of Bruxal in Bavaria (document 16).

In addition to these documentary details, M. Tourneur produces another surprise, nothing less than a portrait-medal of Alexander, the original of which he



believes to be from the artist's own hand. I translate M. Tourneur's own words: "I think I have his portrait by himself; I have a medal of which I send you a plaster-cast [here illustrated]. The piece is an after-cast which was made, I think, at the end of the sixteenth century; it is of the metal used in the time of Albert and Isabella and for some years previously. The person is called ALEXANDER VAN BRUCHSEE; it ought to be *Bruchsel* or *Bruchsele*. I have sought long for the name Bruchsee. The medal must have originated either in Mechlin or Antwerp, according to

the date of it. I have examined all the Court Records without finding this name; also all the *lettres scabiniæles* of Antwerp of this period; there are good indexes of names, but I have looked in vain for Bruchsee. I conclude that this medal must represent Alexander of Bruchsal, and that the second E has been altered from L in recasting. What encourages my belief is that, according to the article in the *Numismatic Chronicle* of 1913, the Alexander in question engraved the first profile portraits on Henry VII's coins. Now the low relief of this medal indicates that its maker was a coin-engraver.

"His portrait (1529) dates from the period when he was *doyen* of the Gild of Goldsmiths. It shows us a man of between fifty and sixty years, which is just the age which he should then have reached."

With these arguments of M. Tourneur I am almost entirely in agreement; I should differ only in not laying stress on the lowness of the relief as an argument that the medal is the work of a die-engraver. There are medals by Friedrich Hagenauer, to take an obvious contemporary example, to which such an argument would apply with greater force. But I have no doubt that it is the work of a die-engraver, if only because of the annulet stops in the lettering. The annulet punch is not part of the equipment of a medallist who is not also a die-engraver or goldsmith.

GEORGE F. HILL.

DOCUMENTS.

Les documents suivants sont extraits des Archives de la Ville d'Anvers.

1. 1514, 26 mai. Meester Alexander van Bruessele, goudsmitsmit, acquiert twee huysen geheeten d'eene Den Dyamant, en d'andere Den Rubyn, gestaen ende gelegen d'een neffens d'andere jegensover den Prediceererpant, tusschen t'huys geheeten Den gulden Aessack ex una en thuys geheeten den . . . *Lettres scabinale*s, 1514, G. et C., 145, f° 7.

2. 1515, 6 octobre. Meester Alexander van Bruessele, goutsmit, acquiert de maître Jean Woutertyns une maison sise op ten Goddaert, entre la maison de ce maître Jean, et celle de Sébastien de Feure. *Lettres scabinale*s, 1515, G. et C., 147, f° 343.

3. 1515, 15 octobre. Alexander van Broexele, goutsmit, acquiert diverses rentes de maître Jean Wouterthyns. *Lettres scabinale*s, 1515, V. et K., 148, f° 128.

4. 1516, 27 mars. Alexander van Brousel, goutsmit, acquiert de Jacob Willemsone, alias Mettenhare, une grande et une petite maison situées l'une à côté de l'autre op ten Goddaert, entre la maison du dit Jacob et celle de feu Adrien Staes. *Lettres scabinale*s, 1516, G. et C. 149, f° 427 v°.

5. 1517, 6 août. Alexander van Brouxele, goutsmit, achète à Jean Oeyen, lyndrager, une rente de 3£ 10 esc. de gros de Brabant gagée sur deux maisons. *Lettres scabinale*s, 1517, V. et K., f° 198-199.

6. 1518, 19 nov. Alexander van Broucxsel, goutsmit, achète à Lysbeth Engelen, veuve de feu Diericx van Tyct, une rente de 20 esc. de gros de Brabant gagée sur une maison, 't Wit peerdeken, dans la Joos Jehoonstraetken. *Lettres scabinale*s, 1519, G. et C., f° 23.

7. 1521, 3 sept. Alexander van Brouxsel, goutsmit, achète à Thomaes Beeme, coopman in London in Ingkland, une rente de 16£ 11 esc. de gros de Brabant. *Lettres scabinale*s, 1521, V. et K., f° 102 v°.

8. 1521, 6 nov. Meester Alexander van Brouschal, goudsmitsmit, achète à Thomas Bombelli, coopman van Gênes, une

rente de 19£ de gros. *Lettres scabinales*, 1521, G. et G., f° 289 v°.

9. 1527, 23 novembre. Meester Alexander van Brouschal, als *deken* ende inden name van de goudsmeden, calengierde van naerderschap alsulcken coop ende voorwaerde van eenen huyse cum fundo et pertinentiis geheeten De Zonne, als Cornelis van Eekerent onlanx geleden, jegens Janne Baptista Borron gecocht ende gecregen heeft. (La maison De Zonne était située à la Coopoortstraat.) *Lettres scabinales*, 1527, K. et B., f° 298 v°.

10. 27 avril, 1530. Hans Moldre Coenraetssone wýlen debet meesteren Alexanderen van Bruxal, goutsmit, de somme van hondert ponden groten vleemsch eens, toecomende eensdeels van geleenen gelde ende eensdeels van borchtochten ende coopmanschappen. *Lettres scabinales*, 1530, K. et R., f° 199.

11. 26 août 1545. Jouffrouwe Johanna van Parys, weduwe Alexanders van Bruchsal, cum tutoribus Alexander ende Bernaert van Bruchsal, heure ende desselffs weylen Alexanders wettige sonen, ende Jouffrouwe Katheryne van Bruchsal, heure ende desselffs Alexanders wettige dochtere, met Meesteren Peeteren Petitpas, gesworen examinator van den getuyghen als eius marito et tutor, alienent au profit de Hermanne Hermansone van Berghen une maison appelée Den Sluetel, inde Zierickstraete jegensover thofstraeten tusschen thuys geheeten Den Fenix ende thuys geheeten den Brack, comende achter aen de huysen geheeten den Dyamant ende den gulden Asack, gelyk tselve verstorven is van den voirseiden wylen Alexander van Bruchsal die dat op den vyfsten dach in septembri anno xv^e ende viere gecregen heeft gegen Gabriele van d'Oerinck Roelantssone. *Lettres scabinales*, 1545, W. et G. II, f° 50 v°.

12. 25 août 1545. Acte de teneur identique au précédent. *Lettres scabinales*, 1545, W. et G. II, f° 51. La seule différence est que le nom de l'ancien propriétaire de la Sluetel est écrit Gabrielle van Doernick, c. à d. Gabriel de Tournai.

13. 21 février 1553. Par suite de la mort de Jehanne van Parys, veuve d'Alexander van Bruxal, ses enfants se

partagent les biens et les rentes qui ne sont pas spécifiés.
Collectanea, 1550-1555, X., f° 136.

14. Jeanne van Parys était morte en 1552, car le *registre 163 des Archives de l'Administration des hospices d'Anvers, 1552*, renferme la mention d'un don de 111£ 10 esc. de Brabant donnés aux pauvres à sa mort.

15. Aux *Archives générales du Royaume à Bruxelles*. Alexander van Brugsal fut reçu bourgeois d'Anvers en 1505-1506: Ander ontfang van nuwen poerters die bynnen den tyde deser rekenninge poerters zyn geworden, ende die de poirterie van Antwerpen aengenomen hebben. Alexander van Brugsal, goudsmed. *Archives générales du Royaume Chambre des Comptes*, reg. 4974, f° 18 v°.

16. *Les Liggeren de la Gilde St-Luc*, ed. Ph. Rambouts et Th. van Lerius. Anvers [1872], I, p. 85: 1515. Dit syn de vrijmeesters die sy ontfangen hebben: Meester Alexandere (van Bruxal, in Beyeren) goutsmet.

XV.

THE TYPES OF CERTAIN EARLY NUREMBERG RECKONING-PENNIES USED IN ENGLAND.

[SEE PLATE XX.]

AMONG the earliest Nuremberg counters used in England for arithmetical operations three types are conspicuous for the comparative frequency with which they are still met with here. These are the "Venus-pennies", as they came to be called by their issuers, the "School-pennies", and the "Ship-pennies". They are far from being so common as those of the Gulden class, but these seem to have been a little later in making their appearance, and their type, an imitation of the coin from which they take their name, possesses much less interest and presents no mystery. The numerous late sixteenth and early seventeenth century *Rechenpfennige*, bearing designs drawn from classical, religious, and emblematic art and literature, offer much attraction but relatively slight difficulty. These I have dealt with at some length in my book *The Casting-Counter and the Counting-Board*.¹

Roughly, the reckoning-pieces, or jettons, used by our forefathers in casting their accounts during the century from about 1525 to 1625, when manual arithmetic died out in this country,² were almost entirely those exported by the Nuremberg makers, and

¹ Oxford University Press, 1916, pp. 211-21.

² Barnard, *Casting-Counter*, pp. 87-8, 208, 252, 255.

the above classification practically includes all the varieties they sent us. After the first quarter of the seventeenth century English men and women had no use for business-jettons, and the large number of German counters that still continued to come over were merely *Spiel-marken* with which we are not here concerned. The immediate precursors in England of the Nuremberg counters had been the Tournay jettons of the late fourteenth and fifteenth centuries, and we may conjecture that the cessation of their supply followed naturally, if gradually, upon our expulsion from France in the time of Henry VI and the subsequent establishment of the Spanish domination in the Low Countries; just as the output of the still earlier Anglo-Gallic jettons minted in France, which those of Tournay superseded, probably came to an end owing to the loss of our French provinces in the latter years of Edward III.

The *Venus-pfennige* and the *Schul-pfennige* were imitations of certain popular metallic-jettons struck in the Low Countries in the late fifteenth century: the primitive from which the *Schiffs-pfennige* derived was French. These early products of the Nuremberg counter-mints were like all, or nearly all,³ their succeeding issues designed to undersell those of the lands into which they were introduced. They passed in the first instance into France and the Netherlands, and thence into England. A jetton of Hans Krauwinckel II reads *Hanns Krauwinckel bin ich bekont in Franckreich vnd avch in Niderlondt.*⁴

³ The well-executed copies by Lazarus Gottlieb Lauffer of certain French official jettons in the second half of the seventeenth century may have been exceptions: see *ibid.*, pp. 68-9.

⁴ Barnard, p. 66.

I. THE VENUS-PFENNIG.

The origin of the Venus-penny is to be found in the obverses of two Burgundian jettons of the year 1488, alluding to the evils that attended the regency of Maximilian, afterwards Emperor, and at that time husband of Mary of Burgundy, daughter and heiress of Charles the Bold. These are (A) Dugniolle's⁵ Nos. 333, 335, of which accurate cuts are given by Van



FIG. 1.



FIG. 2.

Mieris,⁶ i, p. 208, Nos. 1, 3; (B) Dugniolle's No. 338; cut in Van Mieris, No. 2. [Figs. 1, 2.]

(A) An almost nude female, standing, holding up in her right hand a goose, the spoiler of land,⁷ and in her left a *chantepleure*, the emblem of grief,⁸ with water falling from it. To her right is a fountain, which the legend suggests is the Fount of Justice, still flowing but perhaps polluted, as the cut seems to show, by drops of blood symbolizing War.⁹ The legend, in full,

⁵ *Le Jeton Historique des Pays-Bas*, 1876-80.

⁶ *Histori der Nederlandsche Vorsten*, Hague, 1733-5.

⁷ Pierius Valerianus, *Hieroglyphica*, Basle, 1567, p. 303.

⁸ Barnard, p. 189.

⁹ This conceit may have been taken from the *Palatine Anthology*, x, Nos. 257-8.¹ The suggestion in Van Mieris (*loc. cit.*) that the fountain stands for War, the source of all bitterness, is not very convincing. However, as this item in the type does not appear on the Nuremberg imitations, the question need not be further discussed here.

reads: IVSTICIT·IS·GHSLT[a]G[en]·DO[od]·VER-
IT[as]·L[eit]·I[n]·G[rooten]·R[ood].¹⁰

(B) A plant of the marguerite with three blooms. The legend is virtually the same as that on (A).¹¹ A naked woman associated with marguerites, the well-known floral emblem of purity, was a favourite motif on Burgundian jettons from 1488 to 1515.¹²

The earliest known Nuremberg *Venus-pfennig* may be Dugniolle's No. 509, which he places under the year 1492, but of which he gives no illustration. He describes the obverse merely as a naked woman standing and holding marguerites, but the three preceding genuine Low Country pieces, which it apparently copies, show the marguerites at her feet, while in her hands she holds the same objects as in (A) above. In all the many German imitations that I have seen the fountain is omitted, and in all the earlier examples the marguerites are in some form or position added. Thus the Nuremberg obverse is a composition made up of selected details taken from the two Low Country obverses (A) and (B).

The reverse of Dugniolle's German counter No. 509

¹⁰ "Justice is stricken dead, Truth suffers great need."

¹¹ Had it not been for the goose, one would have supposed that the prototype of the Nuremberg copies was to be seen in the two Low Country jettons engraved in Van Mieris, i, p. 281, Nos. 4, 5.

¹² Dugniolle's No. 1054, of the latter year, seems to be the latest example. Whether there was any allusion in these pieces to Margaret of Austria, the daughter of Maximilian and Mary of Burgundy, one cannot say, but the marguerite became a canting device of hers, and appears, *e.g.*, on a jetton commemorating her marriage in 1497 with Don Juan of Spain, son of Ferdinand and Isabella (Dugniolle, No. 661); on jettons of hers before and during her regency from 1516 to 1530 (*ibid.*, Nos. 929, 1123); also on money coined by her in 1522 (Barnard, p. 189).

follows that of the three Low Country pieces above mentioned. They display the shield of Philippe le Beau, ensigned with the steel, flint, and sparks, the familiar badge of Burgundy; and this was the reverse adopted throughout for the Nuremberg Venus-pennies, though in course of time its heraldry became more and more inaccurate and debased.

Whoever the nude female on the Low Country originals was intended to represent, it is not likely to have been Venus. Dugniolle,¹³ probably following Neumann,¹⁴ names her Pandora, and the *chanterepleure*, or watering-pot, is called by both these writers¹⁵ the badge of Burgundy. The former attribution is unintelligible, the latter explanation clearly wrong. The description of this obverse in Van Mieris,¹⁶ and in De Coster,¹⁷ is incomplete, but, so far as it goes, correct. The Burgundian badge, moreover, as we have seen, is provided for on the reverse. The *Veritas* of the legend probably indicates that the woman stands for "The Naked Truth". *Nuda Veritas* was, of course, taken from Horace,¹⁸ or perhaps here, less directly, from Lactantius.¹⁹ Later it reappears in the Emblem Literature, as, for example, in Alciat.²⁰ Gebert's²¹ attempt

¹³ No. 333.

¹⁴ *Beschreibung der bekanntesten Kupfermünzen*, Prague, 1858-72; No. 33, 891.

¹⁵ Dugn., *ibid.*, Neumann, Nos. 32, 418; 33, 868. ¹⁶ *Loc. cit.*

¹⁷ *Jetons historiques d'or et d'argent frappés dans les Pays-Bas*, 1883, No. 6. ¹⁸ *Od.*, I. xxiv. 7.

¹⁹ *De Falsa Sapientia*, iii. 1. *Cp.* Lucian, 'ANABIOYNTES, ἀλήθεια γυμνή.

²⁰ Augsburg, 1531, E 5, p. 7; or Paris, 1534, p. 100. *Cp.*, too, Shak., *L.L.L.* v, ii. 716; *Hen. VI*, A, II. iv. 20. On a French jetton of the time of Charles IX (1560-74) *Veritas* is still *nuda*, but reclining (De la Tour, *Jetons . . . Rois et Reines*, 1897, No. 296).

²¹ *Geschichte der Nürnberger Rechenpfennigschlager*, 1918, p. 30.

to strengthen this interpretation by regarding the very obvious *chantepleure*, or "besproeijer of watergieter",²² as "the mirror that cannot lie" is obviously unacceptable.²³

The legends on the Nuremberg versions begin with a bungled one.²⁴ No. 1 below is religious, and they soon become frankly fictitious, or perhaps prophylactic, after the manner of so many German counters.²⁵ When the original meaning of the obverse was forgotten later counters of this character issued from Nuremberg occasionally bore the legend *Venus Dea Amoris*,²⁶ or *Venus-pfennig*.²⁷ On some is DV or VD,²⁸ presumably for *Dea Venus* or *Venus Dea*; less probably for *Dei Verbum* or *Verbum Domini*, which appear on many jettons. Also there was degeneration of type. In some examples the goose is replaced by a sceptre,²⁹ or by a crown,³⁰ or by a sixfoil,³¹ and about 1540 the melancholy *chantepleure* gives place to the festive flagon, which, combined with the "Venus", may possibly present us with a symbolization of "wine and woman". Finally, the Goddess of Love is given only her proper attributes of heart and arrows.³² Meanwhile the marguerites

²² Van Mieris, *loc. cit.* : "een vat met water in de hand".

²³ Fontenay (*Fragments d'Histoire métallique*, 1845, p. 164, and Pl. X, 1-3), in noticing these German pieces, curiously writes of the figure on the obverse that "La femme hideuse personnifierait la débauche".

²⁴ Dugn., No. 509.

²⁵ On these see the note at the end of my paper on Portuguese Jettons in the *Numismatic Chronicle*, 5th Ser., III. Snelling (*View of Jettons*, 1769, p. 10) says that he possessed a Venus-penny which read "Macht zu Nurembergh".

²⁶ No. 19 below, and Barnard, p. 212, No. 25.

²⁷ Gebert, p. 30, of c. 1560.

²⁸ *Ibid.*

²⁹ Nos. 9-11 below.

³⁰ No. 13 below.

³¹ No. 12 below.

³² No. 19 below.

gradually disappear. According to Gebert,³³ the last *Venus-pfennig* was stamped by Egidius Krauwinckel about 1585.

Counters in the following list that bear the mark of a crown are perhaps by either Iorg Schultes or his son Hans Schultes I. All are selected from my own collection.

Examples of Nuremberg Venus-pennies.

1. [Pl. XX. 1.] *Obv.*—An almost nude woman, with very little drapery, standing slightly to the left. She holds up in her right hand a bird, in her left is a *chanterepleure* from which she scatters water.³⁴ On either side of her is a large marguerite similar to those in B of the above prototypes. The feet of the figure cut the inner circle. The bird is close, not displayed as in the Burgundian original, and is not, as there, obviously a goose. *Legend* (blundered), preceded by a crown: **THE RE MAR · I · [for R]IT : GR · TD [for Q]IT : PLENT : QOR : [meum munda].**

Rev.—A round-based shield of the arms of Burgundy: *Quarterly*: (1) *Austria-modern*, *Gules a fess argent*; (2) *France-modern*; (3) *Burgundy-ancient*, which was *Bendy of six or and azure, a bordure gules*, but is given here inaccurately as three bends with the bordure omitted; ³⁵ (4) *Brabant, Sable, a lion rampant*

³³ pp. 30-31.

³⁴ On the obverse of most of these German pieces there seems to be some confusion between the *chanterepleure* and the Burgundian badge, for the emission from the former often resembles sparks rather than water, even when an obvious watering-pot is shown. This doubtless is what misled Neumann as pointed out above.

³⁵ This brisure, however, was often crowded out on early Burgundian money and jettons, on which see Barnard, p. 187, No. 1.

or; ³⁶ over all an inescutcheon of Flanders, Or, a lion rampant sable. Above the shield, as in the original reverse, is the badge of Burgundy: a steel with three flints below it emitting sparks. *Legend* (Lombardic): Fictitious, preceded by a crown. Size 8.³⁷

2. *Obv.*—Similar to that of No. 1, but the drapery differs and the marguerites, if such they be, are very small. The feet of the figure just cut the inner circle; below them are three little cinquefoils. *Legend*, (Lombardic): Fictitious, preceded by a crown.

Rev.—Similar to No. 1. The small annulet in the fourth quarter is clearer. *Legend*: as on the obverse.³⁸ Size 9.

3. *Obv.*—Similar to Nos. 1 and 2, but the drapery differs again and there is a small flower below the bird's beak. To the left is the large marguerite of No. 1, and to the right the small flower of No. 2. *Legend*: as on No. 2.

Rev.—Similar to Nos. 1 and 2, but in the fourth quarter there are two small annulets. *Legend*: as on the obverse. Size 9.

4. *Obv.*—Somewhat like No. 3, but the bird resembles a cock and its wings are raised; the small flower, too, below the *chantepleure* is absent. The feet of the figure cut the inner circle and below them is a sixfoil. *Legend*: as on No. 2.

Rev.—Similar to No. 3, but in the Burgundian

³⁶ A small annulet has been added to this quarter, as a mint-mark.

³⁷ Mionnet's scale is used here with the addition of a half-measurement.

³⁸ This, here and henceforward, does not mean that the fictitious legends have the same sequence of letters.

badge above the shield the flints have been omitted.

Legend: as on the obverse. Size 9.

5. *Obv.*—Similar to No. 1, but there is a small flower below the bird's beak, as in No. 3. Beneath the feet of the figure, in the legend-space, is a star between two pellets. *Legend*: as in No. 2.

Rev.—As No. 4, but the first quarter also is blundered. The flints of the badge are omitted.

Legend (Lombardic): Fictitious, preceded by a cross. Size 8½.

6. *Obv.*—Similar to No. 1, but the marguerite to the right is below the *chantepierre*. *Legend* (Lombardic): Fictitious, preceded by a cross pattée.

Rev.—Similar to No. 5 and with the same blunders in the first and third quarters. The flints of the badge are shown. *Legend*: as on the obverse. Size 8½. The execution of the lettering is neater than usual.

7. *Obv.*—Similar in general to No. 6, but there are no marguerites or other flowers. *Legend*: as on No. 2.

Rev.—An ogee-based shield displaying a travesty of the arms of Burgundy, the first quarter being France-modern, the second and third quarters Austria-modern. The spaces between the shield and the inner circle are filled with annulets and cinquefoils. The Burgundian badge has disappeared. *Legend*: as on the obverse. Size 10.

8. *Obv.*—Similar in general to the preceding Nos. 1-7, but differently treated. The bird and the *chantepierre* have changed hands, and the figure is turned slightly to right instead of to left. *Legend*: as on No. 2.

Rev.—An ugly squat shield with the Burgundian heraldry hopelessly blundered. The badge, however, is complete. *Legend*: as on the obverse. Size 9.

9. [Pl. XX. 2.] *Obv.*—Similar in general to Nos. 1-7, but the bird has disappeared and its place is taken by a sceptre topped with a fleur-de-lys. On each side of it is a small star (or marguerite). Five more such stars are below the drapery on the right arm of the woman, and on each side of her legs is a cinquefoil. Her feet cut the inner circle and below them is a fleur-de-lys between two sixfoils. *Legend*: as on No. 2, but ending with two fleurs-de-lys.

Rev.—A round-based shield of the arms of Burgundy, but the fess in the first quarter is fancifully charged with two sixfoils. The third quarter is, as usual, blundered. The badge is complete. *Legend* (Lombardic): Fictitious, preceded by a cross pattée. Size $8\frac{1}{2}$. Barnard, p. 188, No. 7.³⁹

10. *Obv.*—Similar to No. 9, but there is a large marguerite to the right of the figure and no cinquefoil on that side. The feet cut the inner circle and below them is a star between two pellets. *Legend*: as on No. 2.

Rev.—A round-based shield of the arms of Burgundy, the third quarter shown with its customary blunder. The badge is complete. *Legend*: as on the obverse. Size $8\frac{1}{2}$.

11. *Obv.*—The figure here, which is ruder, holds up

³⁹ Changes in details appear also on the Low Country jettons of the *Nuda Veritas* type. For example, in 1496 the woman holds up in her right hand, instead of the goose, a large full-faced marguerite (Van Mieris, i. 281, Nos. 4, 5); in 1497 this is replaced by a small flower (*ibid.*, p. 292, No. 2); in 1503 this small flower has become a large marguerite again, but in profile (*ibid.*, p. 345, No. 3); in 1506 she holds a mound (*ibid.*, p. 385, No. 1); in 1507 a cinquefoil (*ibid.*, p. 390, No. 1); and in 1508 the goose comes back (*ibid.*, p. 401, No. 1).

a sceptre as in Nos. 9 and 10, but with a large cinquefoil on each side of it: the feet do not cut the inner circle. Three more similar cinquefoils are below the drapery on the right arm. The *chanteleure* has lost its proper shape. *Legend*: as on No. 2. At the bottom is a fleur-de-lys between two cinquefoils.

Rev.—A round-based shield, of clumsy form, bearing the arms of Burgundy with the first and third quarters blundered. Of the badge only the steel and sparks are shown. *Legend* (Lombardic): Fictitious, with two cinquefoils worked into it. Size 8.

12. *Obv.*—A female much as before (No. 8 excepted), but she holds up in her right hand a sixfoil, and to the right of her grows a flowering plant which is watered by the *chanteleure*. *Legend*: as on No. 2. A sixfoil is worked into it.

Rev.—A clumsy round-based shield of the arms of Burgundy, correctly shown except for the third quarter, which repeats the first. Above it, instead of the badge, is the head of a cross fourchée between two small annulets. The whole is surrounded by a tressure of twelve arcs contained by the inner circle. *Legend* (Lombardic): Fictitious, preceded by a sixfoil. Size 9 $\frac{1}{2}$.

13. *Obv.*—A figure of similar character to the last, but holding up in her right hand a crown instead of a bird or a sceptre. The ends of her drapery terminate in five sixfoils. *Legend* (Lombardic): Fictitious, preceded by four pellets arranged as a lozenge, which are worked in twice more amid the lettering.

Rev.—An ogee-based shield of Burgundy shown exactly as on No. 7. Above it, in place of the badge, is a crown between two annulets, and on either side of it is a cinquefoil between two small stars. *Legend*

(Lombardic): Fictitious. Size 9½. The obverse has been lightly countermarked with a rectangular pattern.

14. *Obv.*—Similar in general to No. 1, but the drapery is simpler and more natural. The ground on which the woman stands is shown. This mark of degeneration from pure symbolism is one that we find in English monumental brasses of the second half of the fifteenth century and after. *Legend*: as on No. 2.

Rev.—An ill-shaped pointed shield displaying a grotesque presentment of the arms of Burgundy. For the first time in this series the French quarter is shown by one fleur-de-lys only, though that was not unusual on jettons.⁴⁰ Above the shield, in place of the Burgundian badge, is IVI between two annulets, and on each side of the shield are five more, while another is placed in the third quarter of the arms. *Legend* (mostly Roman lettering): Fictitious. Size 8½.

15. *Obv.*—Similar to No. 14. *Legend*: as on No. 2. Four pellets, arranged in lozenge, appear twice among the letters.

Rev.—An ogee-based shield bearing the blundered arms of Burgundy: France, with three fleurs-de-lys, is placed in the first quarter, and Austria-modern in the second and third. Above the shield, instead of the Burgundian badge, is the date 1534. *Legend*: as on the obverse. Size 9.

16. [Pl. XX. 3.] *Obv.*—A nude woman, facing, but looking to her left. Across her body she holds drapery and in her left hand a flagon or standing cup. There is no bird, sceptre, or *chantepleure*, nor are there flowers of any kind. On each side of her are three arcs of a

⁴⁰ Barnard, p. 187, No. 1.

tressure, floriated at the angles, the completion of the tressure being interrupted by her head and feet. *Legend* (mostly Roman), preceded by a crown : HANS : SCHVLTES : NRÖ [= Nuremberg ?] FDBRF.

Rev.—A debased shield, with conventional double bouche, displaying fictitious arms, a fleur-de-lys in the second quarter being all that is left of the genuine coat of Burgundy. There is another on each side of the shield, the base of which is flanked by four annulets ; above it is another annulet between two trefoils. *Legend* (all Roman except S), preceded by a wedge : ▼HANS:SCHVLTES:NOMXYÖD. Size 9½. Issued by Hans Schultes I. *Cp.* Snelling, Pl. 3, No. 6.

17. *Obv.*—Similar to No. 16. *Legend* (mostly Roman), preceded by a crown : HANS▼SCHV[?]TES▼NORMB [=Nuremberg] ▷ROPI.

Rev.—An ogee-based shield bearing fictitious arms: the fleur-de-lys of France appears in the first and fourth quarters. The spaces between the shield and the inner circle are filled with arabesques and pellets. *Legend* (mostly Roman), preceded by a small wedge : ▼HTNS ▼SCHV[?]TLTES ▼XZMBPN[?]TH. Size 9. By Hans Schultes I. *Cp.* the reverse of a Venus-counter by his father Iorg Schultes, illustrated by Gebert, p. 114.

18. *Obv.*—Similar to Nos. 16 and 17, but the woman's hair is shorter and the tressure is complete in eight arcs. *Legend* (mixed lettering), preceded by a crown : 3V+ NORMBHRG [=of Nuremberg] IGMAT : 1553. This is a continuation of the legend on the other face, showing that in this piece the shield-side was regarded as the obverse, but it has been taken here as the reverse rather than disturb the uniformity of the list.

Rev.—A fictitious shield of arms as on No. 17, but without the surrounding ornaments. *Legend* (mixed lettering), preceded by a cinquefoil: \aleph [blundered for \hbar , and a omitted] NS + SCN [for \hbar] VLT θ S + OGB + LP. Size 9. By Hans Schultes I.

19. [Pl. XX. 4.] *Obv.*—A naked female standing, facing, but looking to her right; her feet just cut the inner circle. In her right hand she holds three arrows, in her left a flaming heart, below which stands the small figure of a woman in a stiff skirt such as was worn in the time of the issuer. *Legend* (Roman), preceded by a quatrefoil, \oplus VENVS \oplus DEA \oplus AMORIS \oplus K \oplus K. Size 9.

Rev.—A scrolled shield of fanciful shape charged with fictitious arms: *Quarterly, 1 and 4 a crown, 2 and 3 a fleur-de-lys*: the last all that remains of the coat of Burgundy. The quartering lines are carried beyond the shield to the edge of the flan where each ends in a fleur-de-lys. *Legend*: * RECH * | * ENN * P | FENNI | * GE * K * K *. Size 7.

Barnard, p. 212, No. 25; Snelling, Pl 3, No. 8. The "arms" on the reverse appear also on a jetton of Hans Schultes I (Barnard, p. 209, No. 6), associated with an obverse bearing a rude bust of what I now know is meant for that of Frederick III, Duke of Saxony, the patron of Luther.⁴¹ This last Venus-penny is by Kilian Koch. It is strange that there is no record in the Nuremberg archives of this profuse issuer of casting-counters.⁴² That he was of Nuremberg is certain, for the name of that city appears on some

⁴¹ An attribution which is supported by this "portrait" being found with a reverse reading *Verbum Domini manet in aeternum*.

⁴² Gebert, p. 68.

of his *Rechen-Pfennige*.⁴³ His dated pieces range from 1580 to 1594 inclusive. His dies, Gebert believes,⁴⁴ were, like many of those used by Hans Krauwinckel II, cut by Valentin Maler, the famous graver of medals, and by Christian Maler his son.

II. THE SCHUL-PFENNIG.

The prototype of the *Schul-pfennig*, as Gebert calls it,⁴⁵ or *Rechenmeister-pfennig*, as I have named it elsewhere, after the legend on Nos. 17 and 18 below,⁴⁶



Fig. 3.

was the obverse of a Low Country jetton of 1580: Dugniolle's Nos. 1232-3,⁴⁷ Neumann's Nos. 33, 921, and illustrated in Barnard,⁴⁸ Van Mieris,⁴⁹ and Piton.⁵⁰ [Fig. 3.] Its legend inculcates care in casting accounts.

⁴³ E.g. Barnard, p. 212, No. 26: *Chilianus Coquus Noribergensis*, 1587; and *Kilianus Koch Nuremberg | Rechen-Pfennige*, in De la Tour, No. 4497.

⁴⁴ pp. 34, 63, 67-8, 72. For other variants of this class see Neumann, V. pp. 404-9.

⁴⁵ p. 31.

⁴⁶ Barnard, p. 234. These are merely terms of convenience: there is no authority for either.

⁴⁷ There are two variants, which differ only as to details in the legends.

⁴⁸ Pl. XLIII, No. 7.

⁴⁹ II, p. 330, No. 3.

⁵⁰ *Les Lombards en France*, 1893, II, p. 31.

The same subject had appeared on certain earlier Low Country jettons,⁵¹ but the treatment is in each instance so dissimilar that there can be no doubt about the original of the German copies.

The earliest date that appears on the School-pennies is 1533, the latest 1553,⁵² but they were issued throughout the second half of that century. After this there are no more until a belated resuscitation of the type in 1690 by Johann Michael Lindner,⁵³ but that, as we have seen,⁵⁴ can never have been used in England for arithmetical operations.

On the obverse of this series of Nuremberg counters we see a *Rechenmeister* seated at his *Rechentafel* with his *Rechenpfennige* upon it. The table is sometimes covered with a cloth, sometimes not; in some cases casting-lines are shown, in others not. Often there seems to be a raised rim round the edge, to prevent the jettons from falling off. Where there is a cloth, this would doubtless be worked in it; where the table is bare, a wooden edging served the same purpose.⁵⁵ Certain of the pieces are more conventionalized than others, even apparently to the extent of filling the unoccupied portions of the flan with circles symbolizing jettons.⁵⁶ The reverse invariably has the Alphabet across it in several lines. It is, therefore, probable that, besides being used for casting business or domestic accounts, and, like other jettons, serving also for teaching manual arithmetic in schools, counters of this

⁵¹ Barnard, pp. 235-6, and Pl. XLIII, Nos. 4-6.

⁵² Nos. 9-13 below; Neumann, Nos. 32, 506-9; De la Tour, No. 4814.

⁵³ Gebert, pp. 32, 105.

⁵⁴ P. 1 of this paper above.

⁵⁵ Barnard, p. 230.

⁵⁶ E.g. No. 12 below.

particular type were further employed as an equivalent to our horn-books,⁵⁷ than which they were even cheaper and more indestructible. This conjecture is supported by the fact that one of about 1570 has been seen by Gebert which bore below the Alphabet the words *Lern Das.*⁵⁸ School-pennies were stamped by several of the Nuremberg counter-makers, some of whom set their names on them,⁵⁹ or, at the end of the Alphabet, their initials,⁶⁰ or letters indicating their city.⁶¹ In addition to those that will appear presently, signatures occur of the following issuers: Egidius Krauwinckel,⁶² his brother and partner Hans Krauwinckel II,⁶³ Hans Lauffer,⁶⁴ and perhaps Mathes Hess.⁶⁵ Others in this series have after the Z of the alphabet Bn or *HN*. No known name seems to fit the former; as for the latter, if the *N* may be taken as meaning Nuremberg,⁶⁶ it might represent the Hess above mentioned, though he generally signed H alone,⁶⁷ or M.H. Signatures, or other issuers' marks, are found also on some of the obverses, as on certain examples of 1553, where, upon the Master's table, we occasionally see X—B, D—Q, or

⁵⁷ I see that Tuer suggested this in his *History of the Horn-Book*, 1896, I, p. 27. Some horn-books proper were very small: e.g. those of lead figured on pp. 114, 117 of that work: two of them German.

⁵⁸ p. 31.

⁵⁹ E.g. No. 18 below.

⁶⁰ E.g. Nos. 1, 2, 15, below.

⁶¹ E.g. Nos. 3, 4, below.

⁶² E.g. De la Tour, No. 4487.

⁶³ *Ibid.*, No. 4528; Nagl, *Die Rechenpfennige und die operative Arithmetik*, Vienna, 1888, p. 59, and Pl. III, No. 50, which reads as reverse legend: *Fleissige Rechnung macht Richtigkeit*, and is Neumann's No. 32,248; Snelling, Pl. III, No. 13.

⁶⁴ De la Tour, No. 4587.

⁶⁵ Gebert, pp. 54-6,

⁶⁶ Cp. No. 4 below.

⁶⁷ One in the Royal Library at Brussels is so signed. Its obverse is as our No. 5.

D— The double B may stand for Bamberger, a family which is known to have made *Rechenpfennige*,⁶⁹ and legends on other types that begin or end with  may probably be referred to the same house. The majority of the school-pennies, however, are without signatures. Among other issuers' marks met with on the obverses are two birds⁷⁰ or two crowns.⁷¹

Examples of Nuremberg School-pennies.

1. *Obv.*—The *Rechenmeister* seated at his table, on which is a fringed cloth. In front of him are arranged his jettons. To his right are two bags, one for jettons,⁷² the other perhaps for money, and to his left lies an open account-book. Round him, above the table, is an invecked tressure, interrupted by his head. This tressure occupies a space which would otherwise be filled by a legend, or part of one. By each elbow is a cinquefoil, and on the table, near the account-book, is a small heart,⁷³ doubtless the issuer's marks. The table seems to be set on a low dais with a semicircular step in front, shown by a double line as in the Burgundian original: a feature which is common to the first eight of this series here described, though only in this and the last is the double-line pattern adhered to.

Rev.—The Alphabet, and a signature, in five lines, enclosed within a square compartment outside which

⁶⁸ Gebert, pp. 31, 37.

⁶⁹ *Ibid.*, p. 37.

⁷⁰ Nos. 12, 13 below.

⁷¹ Gebert, pp. 31, 38. Occasionally the alphabet on these pieces is in black letter. There is an example in the Ashmolean Museum, dated 1553. Another in the same collection has the very familiar fifteenth-century French reverse of four lys within a lozenge (see Barnard, p. 119, No. 52, and Note 115 below).

⁷² Barnard, pp. 237-8.

⁷³ *Cp.* No. 8 below.

are small ornaments. All the lettering is Roman: D is omitted and a G put in its place, while O repeated appears instead of Q. Nos. 1 to 8 have no W. At the end is HS, no doubt for Hans Schultes I, who died in 1584.⁷⁴ Size 7½. De la Tour, No. 4461.⁷⁵

2. *Obv.*—The Master much as on No. 1, but there is only one bag on the table, and the dais is shown by a single line, as it continues to be down to No. 7 inclusive. The two portions of a tressure are little more than flourishes.

Rev.—The Alphabet and a signature in six lines across the field, not in a compartment. It terminates with 3·HTN|·M., perhaps for “zu Hans Müller”, who was working from 1570 to 1582.⁷⁶ The lettering is Roman except for T and the final M, and each line of the Alphabet begins and ends with a pellet. Size 7½.

3. *Obv.*—Similar to No. 2, but the tressure is continued over the Master's head and is decorated with sixfoils and annulets.

Rev.—The Alphabet in five lines within a square compartment. All but B is Roman, and the D is reversed. At the end is NO, probably for *Normberg*, a spelling which occurs on the *Schul-Pfennig* No. 4814 in De la Tour,⁷⁷ and is often seen on German counters. De la Tour's No. 4528, also of this series, reads NOR. Size 7½.

4. *Obv.*—Similar to Nos. 2 and 3, but the tressure has annulets at its angles and a pellet in each spandrel.

⁷⁴ Gebert, p. 117.

⁷⁵ The master there is wrongly described as a banker, though in all De la Tour's other notices of these pieces the description is correct.

⁷⁶ Gebert, p. 107.

⁷⁷ *Collection Rouyer*, II.

Rev.—The Alphabet in five lines within a square compartment. The small ornaments in each of the four spaces outside the latter are an annulet between two pellets (the same objects as on the obverse). All the letters except *N* which follows the *Z* are Roman, and the *D* is reversed as in No. 3. Since no maker is known whose name begins with *N*, the last letter probably stands for Nuremberg. Size $7\frac{1}{2}$.

5. [Pl. XX. 5.] *Obv.*—Similar to No. 2 and with the same form of tressure, but the account-book possesses a very important feature, for it clearly shows the entries in it as being made by the dot method. This set down in ink the results exactly as they appeared on the board, or cloth, after completing a sum with the counters.⁷⁸

Rev.—The Alphabet in five lines across the field, not in a compartment. The lettering is mixed Lombardic and Roman; *D* and *G* are reversed. The first four lines begin and end with an annulet and the last line with a pellet. Four more pellets appear at the bottom. Size $7\frac{1}{2}$.

6. *Obv.*—Similar to No. 4, but the tressure is interrupted by the Master's head and there are no pellets.

Rev.—The Alphabet in five lines across the field, not in a compartment. The lettering is all Roman except *GIPS*. There is an annulet at the end of each line. Size 7.

7. *Obv.*—Similar to No. 2, but, like No. 5, the account-book has dots in it, though not so many.

Rev.—The Alphabet in five lines across the field,

⁷⁸ See Barnard, pp. 317-18, and in "Italian Jettons", *Num. Chron.*, Vol. XX, Series IV, pp. 218-19.

not in a compartment. The lettering is mostly Roman; D and G are reversed, and N is used in error for h. Each line begins and ends with a pellet. Size 7½.

8. *Obv.*—Similar to No. 1, but the little heart, if originally there, is worn away.

Rev.—The Alphabet in five lines within a square compartment. The lettering is mostly Roman. The Lombardic Q is put for the Roman D. At both ends of the last line is a small heart exactly the same as that on the obverse of No. 1. Each of the four spaces outside the compartment is filled with a cinquefoil on either side of which are two pellets. Size 7. The heart may show that this, like No. 1, was the production of Hans Schultes I.

9. *Obv.*—The same general type, but there are some material changes that wander farther away from the prototype. The dais has disappeared, its place being taken by a trellis-pattern in an exergue, probably indicating a tiled floor. The tressure is interrupted by the Master's head, but is carried down to the legs of the table. As in Nos. 2-7 there is only one bag. The fringe of the cloth is much more naturally shown.

Rev.—The Alphabet in five lines across the field, not in a compartment, the lettering all Roman except Y; W is included. Below it is the date 1553. Size 7½.

10. *Obv.*—The Master and his table and cloth are much as on No. 9, but more jettons are shown, and the place of the tressure is taken by small stars. For the first time there is no floor for his feet to rest upon.

Rev.—The Alphabet as on No. 9 and with the same date below it. Size 7½. *Cp.* Snelling, Pl. III, No. 14, which, however, is very inaccurately drawn.

11. *Obv.*—Similar to No. 10, but instead of the stars

there is a tressure like that on No. 9, continued, however, over the Master's head.

Rev.—A bungled Alphabet in four lines across the field, not in a compartment, reading: ABC | DFABC | ABCDF | DAGDF, all in Roman letters. Below it is 1553 in Lombardic numerals. Size 7. Barnard, Pl. XLII, No. 6.

12. *Obv.*—A different treatment again and somewhat barbarous. The table is ill-formed, so that it seems to surround the Master, and the cloth is conventionally fringed as in Nos. 1–8. Bag, jettons, and account-book are all gone. By each of the Master's elbows is a bird, doubtless the issuer's mark, and above his head are three pellets. The whole of the unoccupied field of the flan is filled with annulets. These may be symbolical of jettons, which are actually shown in the same way on another example in my possession. As with Nos. 10 and 11 there is no floor.

Rev.—The Alphabet in five lines across the field, not in a compartment. All the lettering is Roman; W is included and the Z is reversed. Below is 1553 in Lombardic numerals. Size 7. Barnard, Pl. XLII, No. 7.

13. *Obv.*—Similar to No. 12 and with the birds, but three solid jettons lie on the table before the Master, and, instead of the field being powdered with annulets, there is an irregular semicircle of annulets and pellets in the place of the former tressure.

Rev.—As No. 9, and with the same date. Size $7\frac{1}{2}$.

14. *Obv.*—The Master here has still a conventionally fringed cloth, but for the first time casting-lines are shown on it.⁷⁹ These are at his left-hand side, and, as

⁷⁹ Barnard, pp. 254 *et seq.*

in Nos. 1 and 8, at his right are two bags. The dais reappears, shown as in Nos. 2-7. There is a tressure similar to that on Nos. 1 and 8. (The middle of the table is much worn on this specimen.) The casting-lines would be either worked in the cloth or chalked on it.⁸⁰ In all the examples of this series that I have seen, when the lines are given, the account-book is absent, perhaps crowded out.

Rev.—The Alphabet in four lines, the first three of which are underlined, within a square compartment. All the lettering is Roman; the D is reversed, and there is no W. Outside the compartment at top and bottom is a willow-like ornament, and at the sides are slight decorations that do not appear important enough to be issuers' marks. Size 7½.

15. [Pl. XX. 6.] *Obv.*—A fresh treatment of the subject and of better execution, but still further removed from the prototype. The Master's table is of much more substantial make. Round its edge, instead of a falling fringe, is what seems to be a raised decorated border, which may represent either the stiff edging of a cloth or an elevated wooden rim. On it, to his right, are the casting-lines, apparently with three "lyers"⁸¹ set, to his left and in front of him lie jettons. If no cloth is intended, the lines would be either inlaid in the table in a lighter or a darker wood,⁸² or chalked upon it. There is an enrailed tressure interrupted by the Master's head; the points of it end in trefoils. Below the table is a flagged floor, and on each side of the massive legs is a sixfoil.

⁸⁰ *Ibid.*, p. 230, and Plates XL, XLI.

⁸¹ *Ibid.*, pp. 34, 254, 266-71.

⁸² *Ibid.*, Plates XXXVII, XXXVIII.

Rev.—The Alphabet in five lines within a square compartment. The lettering is all Roman; the D reversed, and there is no W. Each of the spaces between the compartment and an enclosing rope-circle is filled with a trefoil between two annulets. At the end of the Alphabet is a second Z, a signature usually attributed to Hans Zwingel, who was admitted to the Nuremberg Gild of counter-makers in 1553.⁸³ Size 7½. Barnard, Pl. XLII, No. 3.

16. [Pl. XX. 7.] Similar to No. 15, but in each arc of the tressure there is a small pellet, and the sixfoils by the table-legs are absent.

Rev.—The Alphabet in five lines within a square compartment. The lettering is all Roman; W is included. There is an ornament somewhat like a hawk's lure outside the compartment at top and bottom, and a lys-head between quatrefoils to right and left. Size 8. For the reverse see Barnard, Pl. XLII, No. 9.

17. *Obv.*—Once more there is a fresh treatment and one still farther removed from the original. Hitherto the Master has worn the familiar flat cap of the first half of the sixteenth century, here he has a hat of shaggy fur which in our country was a late fifteenth-century fashion,⁸⁴ and has a fur collar to his robe. He is bearded, whereas all his predecessors here have been smock-faced. He sits at a heavy, but handsome, table with the substantial legs of No. 15,⁸⁵ and is very

⁸³ Gebert, p. 125.

⁸⁴ See, *e.g.*, Fairholt, *Costume in England*, edited by Dillon, 1885, I, p. 222, fig. 187; II, p. 227, fig. 23; Strutt, *Regal and Ecclesiastical Antiquities*, 1793, Pl. XLV, from *Harl. MS.* 4826.

⁸⁵ German counting-tables of this general character are shown in Barnard, Pl. LII, fig. 1, of 1544; Pl. LV, fig. 2, of 1591.

obviously manipulating jettons. There are no casting-lines, but the vertical row of four jettons near his left hand is evidently the Tree of Numeration which took their place.⁸⁶ There is a small cloth on the table, as is shown by the puckers at its right-hand end. Upon it, to right and left, are two objects, of which one may be the bowl in which jettons were sometimes kept,⁸⁷ the other possibly an inkpot, but there is no account-book. A flagged floor is shown, and on each side of the table-legs is a sixfoil as in No. 15. *Legend*, above, interrupted by the Master's head: RECHE[n]—MEISTER.

Rev.—The Alphabet in five lines across the field, not in a compartment but within a circle of very slightly-shown dots. The lettering is all Roman; W is included and precedes V for convenience of spacing. The whole is surrounded by a bold ornamented circle. Size 7. Barnard, Pl. XLII, No. 1.

18. *Obv.*—There is a general similarity to No. 17, but the work is coarser. The Master is wearing a taller fur hat, and there is no cloth on the table. The *legend*, placed as in No. 17, reads: RECHEN—MEISTER.

Rev.—The Alphabet in five lines across the field, within an inner circle. The lettering is all Roman; W is included. *Legend* round: ☈ WVLF ☈ LA[u]FER ☈ IN ☈ NVRMBERG ☈ R[echenpfennigmacher]. Size 8. *Cp.* Fontenay, *Manuel de Jetons*, 1854, p. 137, and *Fragments*, p. 164, and Pl. IX, No. 12; De la Tour, No. 4601; Gebert, p. 99. Wolf Lauffer I, the issuer of this piece, was the stock-father of the Lauffer firm

⁸⁶ See Barnard, pp. 34, 234, 236–7, 254, 264, 304–17.

⁸⁷ See *ibid.*, pp. 84, 86, 233.

of counter-makers and died in 1601. That it was his production and not that of his son Wolf Lauffer II, who died in 1631, is fairly certain, for in the time of the latter *Schul-Pfennige* were no longer being stamped.⁸⁸

19. [Pl. XX. 8.] *Obr.*—The Master here is bearded and bare-headed, with “clubbed hair”.⁸⁹ His table is of massive make and very large, cutting the inner circle. The edge of it is so elaborately decorated that probably a cloth with a raised piping is indicated, as perhaps in No. 15. Casting-lines are shown before him, and the jettons have an inner circle on them. By his right arm is a pair of pince-nez, and by his left an object which may represent a small account-book, but not open as usual. In front are two utensils similar to those on Nos. 17 and 18. There is no floor. Around is a border of quatrefoils interrupted by the Master’s head and the legs of the table. At the bottom is what may be a signature of one letter, but it is so ill-struck as to be undecipherable.

Rev.—The Alphabet in five lines across the field, not in a compartment. The lettering is all Roman, and all underlined; W is included. The whole is within a circle of the same pattern as that on No. 17. Size 7½. Barnard, Pl. XLII, No. 2. Spectacles of pince-nez form appear on jettons of Damian, Egidius,

⁸⁸ See Gebert, pp. 99-102, who tells us also (p. 72) that Georg Lauffer, eldest son of Wolf I, inherited the business of the Krauwinckels, Hans Krauwinckel II, the last of that family, being Georg’s brother-in-law.

⁸⁹ As, e.g., on the brass of Sir Robert Clere (1529) at Great Ormesby, Norfolk, figured in Haines, *Monumental Brasses*, 1861, I, cxxxiv.

and Hans Krauwinckel II, and were evidently a mark of their house,⁹⁰ from which therefore this counter was probably issued.

20. [Pl. XX. 9] *Obv.*—A fresh presentment of the type. The Master is bare-headed, with short hair and trimmed and pointed beard. His table is of heavy make, but less so than appeared in Nos. 15–19. There is a large chain-pattern edging, probably of a cloth. To his left the casting-lines are given with a “lyer” at the end of each,⁹¹ but as fainter lines extend beyond them, it is likely that the former indicate permanent lines worked in the cloth, the latter temporary lines chalked for the special purposes of the calculation then in hand. Except the working-jettons, as distinct from the stationary lyers, there are no other objects on the table. Round the whole is an engrailed tressure resembling that on No. 15, but with a quatrefoil in each arc. It is interrupted by the Master’s head and the legs of the table. Near each of his elbows is a quatrefoil.

Rev.—The Alphabet in five lines across the field, not in a compartment. The lettering is all Roman; W is included. The whole is within a circle of the same pattern as that on Nos. 17 and 19. Size 8. Gilt. Barnard, Pl. XLII, Nos. 4, 8; Feuardent, Pl. XXII, *fin*; Van Loon, *Hedendaagsche Penningkunde*, Hague, 1732,

⁹⁰ E.g. De la Tour, No. 4478 (Damian); *ibid.*, No. 4488 (Egidius); Gebert, p. 69 (Egidius and Hans); these and others are in my own collection. They are exactly the old-fashioned “barnacles” seen in the arms of the Spectacle-makers’ Company of London, and in Barnard, Pl. LX, of 1549. For the relationship of these three persons see the Appendix to this paper.

⁹¹ See No. 15.

p. 158, and *Inleiding tot de Heden. Penningkunde*, Amsterdam, 1715, p. 56.

III. THE SCHIFFS-PFENNIG.

There can be little doubt that the origin of the Ship-penny type is to be found in the arms of Paris which appear on the jettons of that city from the early years of the fifteenth century onwards.⁹² [Fig. 4.] The obverse of the earliest known of those jettons



Fig. 4.

precisely reproduces the city seal of 1412, with which, therefore, it is probably contemporaneous. It shows a conventional rudderless ship with poop-castle and fore-castle, both exactly alike, one mast amidships with a sail set, a crow's nest (or fighting-top), and a fleur-de-lys where the truck would be.⁹³ Three more, smaller, fleurs-de-lys are placed on the sail, after the mediaeval manner of emblazoning a vessel's canvas, and two larger ones in the field on either side of it.

⁹² D'Affry, *Les Jetons de L'Échevinage Parisien*, 1878, p. 1; but better illustrated by Rouyer in *Mémoires de la Soc. Imp. des Antiq. de France*, XXXI, Pl. II, 1.

⁹³ A ship of the same character was worn as a badge on the sleeves of the sergeants of the Provost of Paris: see the woodcut, of c. 1501, reproduced in *Bulletin de la Soc. de l'Hist. de Paris*, 1909, p. 148.

The legend is: COMPT3 · BIEN · ET · PTIE3 · BIEN · The ship is symbolical of the water-borne trade of Paris,⁹⁴ and the fleurs-de-lys assert the loyalty of the capital to the French King, a sentiment further proclaimed by the reverse legend: VIV^E · L^E · ROY · ET · SES · T^MIS. On the third of the Paris jettons figured by D'Affry,⁹⁵ which is of about 1430, we have, however, a secondary meaning attached to the ship, involving a pun, for its legends form the distich *Sur toutes cites Paris prise, Car sa nef figure leglise.* The play, of course, is on the double meaning of *nef*: (1) ship, (2) nave of a church.⁹⁶ On D'Affry's No. 4, of the latter part of the fifteenth century, the management of the scattered fleurs-de-lys is regularized and all are shifted up and placed on a chief by themselves, which continued to be the normal arrangement on the municipal jettons from that time onwards. This removal of the fleurs-de-lys from the ship and its immediate surroundings may be important in the story of the development of the Nuremberg Ship-penny type, since it might have prompted the carrying of this detachment a stage further, for, by their withdrawal altogether from the obverse, they would provide material for a reverse type such as is found on the great majority of the *Schiff's-pfennige*, and it will be seen below that there was a French armorial model ready to hand to justify the copyist.

We may note the following points about the French prototype of the German obverse. Till about the time

⁹⁴ Le Roux de Lincy, *Hist. de l'Hôtel de Ville de Paris*, 1846, p. 148. ⁹⁵ p. 3.

⁹⁶ This *jeu de mots* probably contains some topical allusion.

of Louis XII and Francis I (1498–1547) the Paris jettons show a single-masted ship.⁹⁷ In the later years of Francis I a mizen is added on the poop,⁹⁸ and from 1548 to 1551 the full number of three masts is reached.⁹⁹ In 1556 there is a reversion to one mast, and this continues to be the fashion¹⁰⁰ till 1572, when three reappear and thenceforward remain the customary number.¹⁰¹ Most of the Nuremberg imitations are founded on the one-masted model; a few, of the latter part of the sixteenth century, display two,¹⁰² or three,¹⁰³ masts. The bulk of the ship-pennies were made before 1600,¹⁰⁴ but Hans Krauwinckel produced a belated one in 1610, following an old pattern.¹⁰⁵

If any doubts remain as to the source of the obverse of the *Schiff-Pfennig* type, they should be set at rest by the French legend found on that face in examples such as Nos. 1–5 below: VOLGVH·LT·GTLLGH·DG·HRTNGG, and we shall find that the reverse legend associated with it will assist to the same conclusion. Moreover, No. 29 below reads on its obverse FLVCTVAT·NEC·MERGITVR, which, as presently to be shown, furnishes further evidence. We must take *Vogue la galère* here in its simple meaning of “Row the galley”, for its figurative signification “come what may”, or “go how it will”, as Cotgrave has it, though used at any rate as early as Rabelais,¹⁰⁶ would make doubtful sense in conjunction with *de France*. It is worth

⁹⁷ D’Affry, No. 8.

⁹⁸ *Ibid.*, Nos. 9, 10.

⁹⁹ *Ibid.*, Nos. 11–13.

¹⁰⁰ *Ibid.*, Nos. 14–24.

¹⁰¹ *Ibid.*, pp. 15 *et seq.*

¹⁰² No. 32 below.

¹⁰³ Nos. 24, 29, below.

¹⁰⁴ So, too, Gebert, p. 32.

¹⁰⁵ No. 27 below, and the earlier one by Hans Schultes I, No. 23.

¹⁰⁶ *Pantagruel*, IV, 23: description of the storm at sea. Rabelais died in 1553.

adding here that the canting device of the famous Paris printer Galliot du Pré¹⁰⁷ was a conventional ship with both oars and a sail, accompanied by the motto **VOGVE LA GVALLEE**.¹⁰⁸ The fact that none of the craft on the German ship-pennies have sweeps need not trouble us, for the ships on jettons bearing the arms of Paris are never oared, though, strangely enough, some of the municipal pieces of the late sixteenth century read *Remigio fluctus superans*. According to Brachet both *voguer* and *galère* were sixteenth-century importations into the French language from the Italian *vogare* and *galera*, while Godefroy places them much earlier; but the meaning of *galère* was apparently not at first confined to oared vessels, for it is used by Clément Marot (c. 1497–1544) as equivalent to *navire* in the sense of a freight-ship,¹⁰⁹ for which the build of the galley would be unsuitable. Hence the term *Gallée* was not out of place on the *Schiffs-Pfennige*.

The second of the two obverse legends quoted above, *Fluctuat nec mergitur*, occurred first on a French jetton of 1580.¹¹⁰ It will be found also on several municipal jettons bearing the arms of Paris during the years 1582–6.¹¹¹ Perhaps this led to the common, but erroneous, belief that these words formed the regular devise which attended the arms of Paris from early

¹⁰⁷ As seen, e.g., in Le Maire's *Traitez Singuliers*, 1525.

¹⁰⁸ Cotgrave gives "ink horne" as a second meaning of *galère*: perhaps there is in Galliot's device a further reference to the authors whose works he published: "work away at the inkpot," "ply the pen."

¹⁰⁹ Lacombe, *Dict. du Vieux Langage François*, 1766–7, I, 237.

¹¹⁰ Coëtlogon and Tisserand, *Les Armoires de la Ville de Paris*, 1874, II, 180–9.

¹¹¹ D'Afry, Nos. 80, 39, 82, 335, 84; Feuardent, *Jetons et Méreaux*, 1904–15, Nos. 3383, 3385–6, 3478.

times, whereas it was not adopted as such till 1853.¹¹² The sentiment is met with, too, in the less euphonious form *Fluctuat at nunquam mergitur* on a municipal jetton of that city dated 1581, and on another of somewhere between 1583 and 1585 inclusive.¹¹³ I suspect that this motto was suggested by Pliny, *H.N.*, xxxvi. 26: “*Lapidem e Scyro insula integrum fluctuari tradunt, eundem comminutum mergi*”; unless it was inspired by the incident in *Vulgata, Matth.*, xiv. 24–33. These few words quoted from Pliny constitute the whole of chapter 26, which from its remarkable brevity would be likely to be remembered.

It has been suggested¹¹⁴ that the Nuremberg ship-type was taken from the obverse of the English noble. There may be just a possibility that the great repute enjoyed by this famous gold coin, and the familiarity with its design brought about by its reproduction in the Low Countries, may have helped indirectly towards the popularity of the ship-penny, but that it furnished the prototype there is nothing to show which can compete with the evidence here adduced for the French origin.

The great majority of the largest and the medium-sized *Schiffs-Pfennige* have for reverse type four fleurs-de-lys in a lozenge. This arrangement of the arms of France does not appear in the French coinage, but it

¹¹² D’Affry, p. 21; Tausin, *Les Devises des Villes de France*, 1914, p. 128.

¹¹³ D’Affry, Nos. 33, 81; Feuardent, No. 3771. Later variants with the same implication are *Immersabilis undis*, from Horace, *Epist.* I, ii. 23, of 1627 (D’Affry, No. 132; Feuardent, No. 3519; De la Tour, *Collection Rouyer*, 1910, No. 3386); and *Nescia mergi*, of 1649 (D’Affry, 162; Feuardent, No. 3560; De la Tour, No. 3399).

¹¹⁴ Gebert, p. 32.

was very common on French jettons of the second half of the fifteenth century,¹¹⁵ and is referred to in the records of the Paris mint for Nov. 27, 1488: "Fut ordonné par messieurs des monnoyes à Nicolas de Russauge, tailleur de la monnoye de Paris, de faire ung fers [*pair of dies*] à getouers où y aura quattro fleurs de liz et une lozange."¹¹⁶ Here we doubtless have the source of this Nuremberg reverse. The French legend adopted with it again helps to complete the proof, for *Vive le bon Roy de France*¹¹⁷ seems to be merely a natural expansion on a foreign-made piece of the *Vive le Roy* found upon the French lys and lozenge reverses.¹¹⁸ The less common ship-penny reverses will be dealt with later.

It is evident that these *Schiffs-Pfennige* must have been made in the first instance for export to France, where they would undersell the heavier and better struck native jettons: a traffic illegal there as it infringed upon a state monopoly.¹¹⁹ There was by then little other foreign supply to compete in France with that from Nuremberg, for, as we have seen, the great output from Tournay of jettons of French appearance had ceased with the advent of Spanish rule in the Low Countries.

One is inclined to believe that the ship-pennies of the older conventional type which bear genuine legends in French,¹²⁰ and which are the best executed, preceded

¹¹⁵ E.g. Barnard, pp. 119-120, Nos. 52-57; Rouyer and Hucher, *Histoire du Jeton*, 1858, p. 44.

¹¹⁶ Barthélemy in *Mélanges de Numismatique*, I (1874-5), p. 242; Barnard, p. 119.

¹¹⁷ Nos. 1-5 below.

¹¹⁸ Barnard, p. 119, Nos. 53, 54, 56.

¹¹⁹ *Ibid.*, pp. 59, 60, 66.

¹²⁰ E.g. Nos. 1-5 below.

in point of time the rude versions of them with fictitious legends,¹²¹ and that the latter were still cheaper, and perhaps often piratical, imitations of the former¹²² issued after the type had earned its popularity and found its market. It is true that some of the apparently orthodox signed pieces are very poor productions, but these, too, may have been forgeries.¹²³ Under the regulations of the Nuremberg City Council all counters were to bear the maker's signature, but this order was continually evaded.¹²⁴ The great proportion of unsigned *Rechenpfennige* is a proof of the difficulty experienced by the authorities in enforcing this order.

Examples of Nuremberg Ship-pennies¹²⁵ (with the usual lys and lozenge reverse).

1. *Obr.*—A conventional¹²⁶ clinker-built ship, sailing to left, with poop and forecastles, both alike, one mast amidships, having three fore and three back stays and rigged with a single yard carrying a square sail which

¹²¹ Such as Nos. 6–18 below.

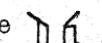
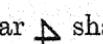
¹²² *I. e.* not issued by the authorized Nuremberg "Spenglers", for by this time counter-making there had become a close craft, minutely regulated by the Gild and by the City Council. (Gebert, pp. 1–15, &c.)

¹²³ There is in my collection a particularly bad one signed DAMIANVS KRAVWINCKEL with a fictitious legend on the reverse.

¹²⁴ Gebert, *passim*.

¹²⁵ Nos. 1–5 and 37–8 are signed in monogram; Nos. 19–29 are signed in full; and Nos. 6–18, 30–36, 39, 41 are unsigned.

¹²⁶ Conventional because it roughly represents an earlier build than that of the period of these counters; but this and kindred forms had become traditional on Seals, and often in manuscripts, as well as on money: *e.g.* on the Seals of Ipswich (13th cent.), Dover (early 14th cent.), Great Yarmouth and Newport, I. W. (both 15th cent.), reproduced in Pedrick's *Borough Seals*, 1904, Nos. 65, 45, 86, 100.

is bellying with the wind. There is an awning, indicated by hachures, throughout the whole length of the vessel, and a rudder is shown. The churning up of the sea by the cut-water is well rendered. At the bows is a cross-headed staff with either a standard, or a pennon with two streamers, and at the stern is a banner charged with a cross. Just above the yard is the letter G, and the mast-head, which penetrates the inner circle, is capped with the signature  in monogram combined with the familiar  shaped merchant's mark so common in England. *Legend:* VOLGVH:LT:GTLLHH:DH:HRTNCH.

Rev.—Four fleurs-de-lys, 1, 2, 1, within a lozenge formed by a double line. In each of the spandrels outside it is a trefoil between two annulets. *Legend:* VIVH:LH:BON:ROY:DH:HRTNCH. Size 7. Remains of what appears to be original gilding. I am not aware that the signature *dk* on this and the next four pieces has been noticed before. It is possibly that of Damian Krauwinckel "Spengler und Rechenpfennigmacher" of Nuremberg, the first of his family to concern us, who died Nov. 24, 1581. In 1562, as was not unusual, he had put up in St. John's cemetery there a tombstone to his own memory. The lettering on its brass plate is in exactly the same style as the above *dk*, though that may not prove much.¹²⁷ As to the G on the mast, one can only conjecture that it stands for *Gallée*.

2. *Obv.*—Similar to No. 1 and with the same signature and G, but the sail is furled, the furling-gaskets being

¹²⁷ Gebert, pp. 66-7.

clearly shown, and braces hang from the yard-arms.¹²⁸ There are only four stays, the pennon has three streamers and under them is an annulet. *Legend*: as on No. 1, but the form of the "n" in France is II.

Rev.—Similar to No. 1, but at the end of the legend are five annulets arranged in quincunx. Size 8. Gilt: perhaps original.

3. [Pl. XX. 10.] *Obv.*—Similar to No. 2 and with the same signature and G, but the furling-gaskets are not shown. On the rudder is an annulet, and one is worked into the waves at each end, but there is none under the streamers. *Legend*: as on No. 2.

Rev.—As No. 1. Size 8. The workmanship is less fine on this piece.

4. *Obv.*—Similar to No. 2 and with the same signature and G. There are annulets in the sea, as in No. 3. The legend ends with the first stroke of the II (n) of France.

Rev.—As No. 1. Size 6½.

5. *Obv.*—Similar to No. 3 and with the same signature and G, but the pennon has only a single streamer, and there is an annulet on the rudder. The legend ends with the Π of France.

Rev.—As No. 1, but the legend ends with the Ρ of France. Size 6½.

6. *Obv.*—Similar to No. 3 and with the G, but with a blundered copy of the signature at the mast-head. Here, as we shall now and then find, the pennon is at

¹²⁸ On many of these counters the brace, at first sight, looks like the outline of a sail, and so is misleading. Where there is a line below the yard it must mean that we are to regard the sail as furled, even if the gaskets are omitted, which in the degenerate pieces they generally are.

the stern, the banner in the bows; the former has two streamers and a pellet below it. There is no awning on the deck, but at the bows are what seem to be two mooring cables. No pellets appear in the sea. *Legend* (Lombardic): Fictitious.

Rev.—Similar to Nos. 1-5, but in each spandrel outside the lozenge is a star of six rays between two pellets. *Legend*: as on the obverse,¹²⁹ but preceded by a crown. Size $8\frac{1}{2}$. On a thicker flan than usual. It is possible that the two lines at the bows, straight though they be, are not meant for mooring-cables, but that they are intended to represent water pouring from the scuppers, as shown on the arms of Paris (1582) in the frontispiece of Le Roux de Lincy's work quoted above.

7. *Obv.*—Similar to No. 2, with the G, but with a still more distant imitation of the signature. On the rudder is an annulet. *Legend* (Lombardic): Fictitious.

Rev.—Similar to Nos. 1-6, but in the centre of the fleurs-de-lys is a cinquefoil, and in each spandrel is another between two pellets. *Legend*: as on the obverse, but preceded by a crown. Size 9.

8. *Obv.*—Similar to No. 3 and with the G, but with a blundered copy of the signature as in No. 6. There is no awning, the pennon has only two streamers, and the braces are shown in a continuous curve, the graver having probably in copying taken them for the outline of a sail. *Legend* (Lombardic): Begins correctly with VIV and continues fictitious.

Rev.—As Nos. 1-7, but in each spandrel is a sixfoil

¹²⁹ This, as before, does not mean that the fictitious legends have the same sequence of letters.

between two pellets. *Legend*: as on the obverse, but preceded by a crown. Size $6\frac{1}{2}$.

9. *Obv.*—Similar to No. 3, but there is no G and no attempt at reproducing the signature of Nos. 1-5, and both awning and rudder have gone. At the top of each flagstaff is an annulet, and the pennon has only two streamers. *Legend* (Lombardic): Fictitious.

Rev.—As before, but in the centre of the fleurs-de-lys is a pellet and each spandrel is filled with five more. *Legend*: as on the obverse. Size $7\frac{1}{2}$.

10. *Obv.*—Similar to No. 9, but the ship is shorter, the pennon and banner have changed ends and their staves have no annulets at the top. The furling-gaskets reappear. *Legend* (Lombardic): Fictitious, preceded by a crown.

Rev.—As No. 9. *Legend*: as on the obverse, less the crown. Size $7\frac{1}{2}$.

11. *Obv.*—Similar in general to No. 9, but with the gaskets and without the braces. Above the yard is a small star and at its right arm an annulet. The pennon, which has changed ends with the banner, has become an ordinary flag, fluttering in the wind. *Legend* (Lombardic): Fictitious.

Rev.—As usual, but in each spandrel are three annulets. *Legend*: as on the obverse. Size $6\frac{1}{2}$.

12. *Obv.*—Similar to No. 11, but without the gaskets. Above the yard is an annulet, which is repeated at the head of each flagstaff. The sea is shown by a curved line with a dot in each curve. *Legend* (Lombardic): Fictitious, preceded by two annulets, one above the other.

Rev.—As usual, but in each spandrel is a cinquefoil between two annulets. *Legend*: as on the obverse, but preceded by a cinquefoil. Size 7.

13. [Pl. XX. 11.] *Obv.*—Similar to No. 12, but the ship is shorter, like that on No. 10, and has only one clinker. Here the stays are very clearly distinguished from the mast, showing the twist of the cordage. The top of the banner-staff is an annulated cross. *Legend*: (Lombardic): Fictitious, preceded by a crown.

Rev.—As usual, but in each spandrel is an O between two annulets. *Legend*: as on the obverse, but interrupted by four equidistant fleurs-de-lys. Size 7.

14. *Obv.*—A still more degraded type. Above the yard is a semicircle enclosing three pellets. This can only be a crude presentment of a yard with the belly of its sail blown up by a gale so as to show above it, as in D'Affry's No. 76, of 1572, and No. 28^a below. The flags are in their original positions as on No. 1, and the pennon is once more a pennon with streamers. As with No. 13 there is only one clinker, and of the rigging all has gone but the mast and stays. *Legend* (mixed Lombardic and Roman): Fictitious.

Rev.—As usual: the small ornaments in the spandrels are as in No. 1. *Legend*: as on the obverse, but preceded by a trefoil. Size 6½.

15. *Obv.*—Similar to No. 14, but the "semicircle" above the yard is without the pellets, and the banner and "pennon" have changed ends. The former has three annulets at its staff-head, the latter is an ordinary flag again, charged with a fess between six roundles. The stays are shown as on No. 13. *Legend* (Lombardic): Fictitious, preceded by a crown.

Rev.—As No. 14. *Legend*: as on the obverse. Size 7.

16. *Obv.*—Similar to No. 13, but the flags have

changed ends again. *Legend* (Lombardic) : Fictitious, preceded by a crown.

Rev.—As usual, but the spandrels outside the lozenge are filled with reticulation, a very uncommon feature. *Legend* : as on the obverse. Size 7.

17. *Obv.*—A degeneration from even Nos. 14 and 15. To the left instead of a banner is a staff topped with a trefoil composed of three annulets touching. *Legend* (Lombardic) : Fictitious, preceded by a crown.

Rev.—As usual. In each spandrel is an annulet between two pellets. *Legend* : as on the obverse. Size 7.

18. *Obv.*—Similar to No. 11, but instead of the yard there is apparently a very large crow's nest, curved to show that it is circular: a band runs round its middle, the spaces above and below which are fitted with small pellets. Above it is a larger pellet. The stays are shown as cordage. The banner, the head of its staff an annulated cross, is in its original place to the right. *Legend* (Lombardic) : Fictitious.

Rev.—As usual, but the lozenge is surrounded by a double tressure of four arcs, and each spandrel outside the tressure is filled with a cinquefoil. *Legend* : as on the obverse. Size $9\frac{1}{2}$. On a very thin flan. Old gilding. Both faces of this example are unusual.

19. *Obv.*—Although a signed piece, the ship and its appointments are indescribably rude. There is a resemblance to No. 14, but the "semicircle" above the yard is filled with a cross pattée and the flags have changed ends. *Legend* (mixed Lombardic and Roman) : preceded by a crown, IORG × SCN [blundered for h] VL TES × FCΩ [Ω reversed]. The last three letters are perhaps for *Fecit Nürnberg*.

Rev.—As usual. In each spandrel is a trefoil. *Legend* (mixed lettering) : IORG ♦ SCR [for h] VLTES ♦ OO · T · BF. Size 7. By Hans Schultes I.

20. *Obv.*—A somewhat rude ship resembling No. 14. In the “semicircle” above the yard is an annulet between two pellets, and the position of the flags is as in No. 19. The sea is shown as in No. 12. *Legend* (mixed lettering) : ♦ HANS : SCHVLTES : NOF [for Nornberg fecit?] DM :

Rev.—As usual. In each spandrel is a star of six points between two pellets. *Legend* (mixed lettering) : ♦ HANS ♦ SCHVLTES : RNHDF. Size 7½. By Hans Schultes I.

21. [Pl. XX. 12.] *Obv.*—Similar to No. 20, but the flags and their position are as in No. 1. In the “semicircle” above the yard is a wedge, as at the beginning of the obverse legend of No. 20. The sea is shown merely by three semicircles. *Legend* (mixed lettering) : ♦ H[a] NS ♦ SCHVLTES ♦ OPGH.

Rev.—As usual. In each spandrel is a quatrefoil between two pellets. *Legend* (mixed lettering) : HANS ♦ SCHVLTES ♦ DPH. Size 7. By Hans Schultes I.

22. *Obv.*—A quite different form of conventional ship. The poop and prow are better defined, the sail is set on the mast, which breaks into the inner circle and has a streamer at its head. The nail-heads are shown on the hull, but there is no sea. Above the bows is the moon and above the stern the sun, both with faces. *Legend* (Roman) : GLICK ♦ IST ♦ WALC ZET ♦ [und *flig* completes the proverb, and is added on some pieces : e.g. No. 23, and Barnard, p. 209, No. 5.]

Rev.—As usual. In each spandrel is a little

quatrefoil like those which form the points in the legends here. *Legend* (Roman): HANS + SCHVLTES + ZV + NVREN [*berg*]. Size 7. Barnard, p. 210, No. 12. The obverse legend means: "Happiness is elusive and fugitive." This and No. 23 are well executed, and are by Hans Schultes III.

23. *Ov.*—Similar to No. 22, but the poopcastle is distinguished from the forecastle by having a pitched roof or an awning, and there are more clinkers in the hull. The mast, which penetrates beyond the inner circle, is cross-headed and has two streamers. The sun and moon have changed places. *Legend*, as on No. 22, but complete.

Rev.—As usual. In each spandrel are two pellets. *Legend*: ✧ HANS ✧ SCHVLTES ✧ NORNBE [rg]: Size 7½. By Hans Schultes III.

24. *Ov.*—The hull of the ship is similar to No. 1, but both poop and forecastle have the overhang which in the case of the latter developed into the beak-head.¹³⁰ There are fore, main, and mizen masts: canvas is set on the two latter, but the fore-sail is furled. Though the hull remains conventional, the rigging is much less so than hitherto. All three masts have stays, there is a main-top with futtock-shrouds, but no rudder. Each mast has a pennon, and the mainmast penetrates into the legend-space. There is no inner circle. The sea is shown, rather slightly, in the legend-space. *Legend*: HANS + SCHVLTES | ZV + NVREN BVRG.

Rev.—As No. 23. Size 7½. Barnard, p. 210, No. 13: and cp. No. 29 below. Well executed. By Hans Schultes III.

¹³⁰ See *Mediaeval England*, Oxford, 1924, p. 254.

25. *Obr.*—One of the worst of the series, though signed. Even the mast is shown twisted, like the stays, as though it were of rope. The sun and moon of No. 22 are present, and the stem and stern flags have reappeared in the position of No. 6. At the mast-head is a large annulet. *Legend:* DAMIANVS ★ KRAVWIN [ckel].

Rev.—As usual. In each spandrel are three annulets. *Legend* (Roman): Fictitious, preceded by a fleur-de-lys, and another is worked in among the letters. Size 8.

26. *Obr.*—Similar to No. 22, but the hull shows two more clinkers. Above the poop is the moon, this time facing to right, above the prow are two stars and above the waist is a third. The sail is smaller, and the whole type is confined within the inner circle. *Legend:* ♫ DAMIANVS ♫ KRAWINCKEL.¹³¹

Rev.—As usual. The spandrels are left blank. *Legend:* ♫ RECHEN ♫ PFENNIGE. Size 7. Perhaps original gilding. Barnard, p. 210, No. 14.

27. [Pl. XX. 13.] *Obr.*—Similar in general to No. 23, but the sail is broader, and instead of the sun and moon there is a star above each end of the ship. *Legend:* ♫ SCHIF ♫ PFENING ♫ NVRENBERG.

Rev.—As usual. In each spandrel is an ornament like the head of a fleur-de-lys. *Legend:* ♫ HANS ♫ KRAVWINCKEL ♫ GOTES [segen macht reich probably]. Size 7. The quotation from Proverbs, x. 22, "God's blessing maketh rich", is common on Nuremberg counters.

28. *Obr.*—Similar to No. 26, but above the prow is

¹³¹ Gebert, p. 65, gives fourteen ways of spelling this name.

the sun, with a face, and above the poop a star, while there are two clinkers fewer in the hull and no nail-heads. *Legend*: ☈ SCHIF ☈ PFENING ☈ NVR[nberg].

Rev.—Similar to that of No. 26. *Legend*: ☈ HANNS ☈ KRAVWINCKEL ☈ I[n Nurnberg probably]. Size 7.

*Examples of Ship-pennies with less usual reverses.*¹³²

28^a. [Pl. XX. 14.] *Obv.*—Very similar to No. 24, but numerous nail-heads are prominent in the hull of the ship, and the sea is much more naturally expressed. *Legend*: + HANS ☈ KRAVWI—NCKEL ☈ SCHIF.

Rev.—A round-based shield of France-modern ensigned with a crown. *Legend*: PIETATE ET—IVSTITIA. Size 8. The reverse legend was the motto of Charles IX of France, and appears on jettons of his reign (1560–74): *cp., e.g.* Barnard, pp. 129–30, Nos. 106–7.

29. *Obv.*—This type may be classed with Nos. 24 and 28^a, and, like them, has three masts, all of which cut the inner circle, but the poop- and forecastles are higher. Each mast has stays, a crow's nest shaped like a crown, a pennon, and a trefoil at its head. Canvas is set on its main- and foremasts, but the mizen-sail is furled, or perhaps reefed. The muzzles of two guns show in the poopcastle. The sea is not given. *Legend*: FLVCTVAT · NEC · MERGITVR.

Rev.—An ogee-based shield of France-modern ensigned with a crown, which is outside the inner circle. *Legend*: H · LAVFER · IN · NVRMBERG.

¹³² It will be noticed that Nos. 28^a and 29–36 display on their reverses the fleurs-de-lys of France in some form, and that Nos. 37–41, which do not, have the French ship-obverse.

Size $6\frac{1}{2}$. Barnard, p. 211, No. 17, and p. 136, No. 133, obverse. By Hans Laufer I.

30. *Obv.*—A ship of the older type, similar in general to No. 1. The letter G above the yard is misplaced Q, as on certain other degraded versions. There is no rudder. *Legend* (Lombardic): Fictitious.

Rev.—A round-based shield of France-modern ensigned with a crown as on No. 29. Here the field of the shield is powdered with small annulets, and others appear between the shield and the inner circle. *Legend*: as on the obverse. Size $10\frac{1}{2}$.

31. *Obv.*—The older ship again, much as No. 6, but there is an awning throughout the length of the waist, which at first sight makes the poop- and forecastles look no higher than the rest of the hull. The stays are shown as on No. 13, and the mast, which has a cross pattée at its head, cuts the inner circle and intrudes into the legend-space. The rudder is to the left, and has on it three pellets: three more are at the top of the pennon-staff, and one on that of the banner-staff. *Legend* (Lombardic): Fictitious.

Rev.—A round-based shield of France-modern ensigned with a crown as on Nos. 29, 30, but without the annulets of the latter. On each side of the shield are four pellets. *Legend*: as on the obverse. Size $5\frac{1}{2}$. Old gilding. Barnard, p. 211, No. 21.

32. *Obv.*—A less conventional ship, to left. There are two masts, main and mizen, and each has stays, a crow's nest, and a pennon. There is a crew of three men, of whom one on the poop is apparently the master, giving orders, while the other two, one on the forecastle and one in the waist, seem to be lowering the mainsail. No canvas is set on the mizen. There

is neither rudder nor sea. *Legend* (below the hull): RECHEN~~И~~ PFEINN[*g*].

Rev.—A shield of fanciful outline quartered by a triple line of dots with a fleur-de-lys in each quarter (or possibly a cross of three strands, each formed of a line of dots, cantoned by four fleurs-de-lys). Mute. Ornaments in lieu of a legend. Size 8. Barnard, p. 211, No. 16; Snelling, Pl. III, 7.

33. *Obv.*—Similar to No. 30 and with the same misplaced G. *Legend* (Lombardic): Fictitious.

Rev.—A bowed cross fleurdelisée cantoned by four stars of six rays. *Legend*: as on the obverse. Size 6½. This form of cross was a very favourite one on French jettons of the fourteenth and fifteenth centuries: see, e.g., Barnard, *French Jettons*, Nos. 11–14, 18, 29, 35, 38, 42, 55, &c.

34. *Obv.*—Similar to No. 33, but without the G. *Legend* (Lombardic): Fictitious.

Rev.—A bowed tribrach of two strands, each arm fleurdelisée; a large cinquefoil in each spandrel. *Legend*: as on the obverse. Size 7½.

35. *Obv.*—Similar to No. 33 and with the same misplaced G. *Legend* (Lombardic): Fictitious.

Rev.—A bowed cross fleurdelisée, with an annulet in its voided centre, cantoned by four cinquefoils each formed of small annulets. *Legend*: As on the obverse. Size 5. Barnard, p. 211, No. 19.

36. *Obv.*—Similar to No. 35, but the G is in its proper position. *Legend* (Lombardic): Fictitious.

Rev.—A bowed cross fleuronnée, with a pellet in its voided centre, cantoned by four fleurs-de-lys annulated at the bottom. *Legend*: as on the obverse. Size 5. Barnard, p. 211, No. 20.

37. *Obv.*—Similar to No. 3, with both G and signature, but there is no annulet on the rudder. *Legend*: VOLGV^A IT^A GALLAE: D^A: HRAIID^D (three letters reversed).

Rev.—The mound and cross within a tressure of three arcs and three angles. *Legend* (Lombardic): Fictitious. Size 8½. This reverse, so common on Nuremberg counters, was a coin-type copied from the *goldgulden*.

38. *Obv.*—Similar to No. 37, with the same G but a debased form of the signature, and there is no rudder. To the right of the G are three pellets in triangle, and to the left of it is a staff with a cross-head but no pennon; on the bows is N [for Nurnberg?]. *Legend* (Lombardic): Fictitious.

Rev.—As that of No. 37. *Legend*: as on the obverse. Size 6½.

39. *Obv.*—Similar to No. 38, but there is apparently no signature and the place of the G is taken by a fleur-de-lys. The cross-headed staff has two streamers. *Legend* (Lombardic): Fictitious.

Rev.—As that of Nos. 37, 38. *Legend*: as on the obverse. Size 5. Barnard, p. 211, No. 18.

40. *Obv.*—Similar to No. 39, but the sea is deeper and the fleur-de-lys at the mast-head is up in the legend-space, as in the French prototype. *Legend* (Lombardic): Fictitious.

Rev.—An eagle displayed. *Legend*: as on the obverse. Size 6½. Barnard, p. 210, No. 10. The eagle is probably that of the Empire.

41. *Obv.*—Similar to Nos. 30, 33–5, and with the G similarly misplaced. *Legend* (Lombardic): Fictitious.

Rev.—A cross pattée fleuronnée cantoned by four

round-based shields charged with fictitious (?) arms; on either side of each cross-head is an annulet. *Legend*: as on the obverse. Size 7½. Barnard, p. 210, No. 11.

APPENDIX.

GEBERT's pamphlet referred to above is the outcome of investigations into the Nuremberg City and Gild archives. His researches have shown that the making of *Rechenpfennige* was well established there by 1488, and have furnished fresh evidence that this manufacture, originally free, not merely became a close craft, but also tended to become hereditary in certain families, such as the houses of Schultes, Krauwinckel, Lauffer, and others. He has further cleared up obscure points as to the identity of some of the members of these families, and so enabled us to separate individuals who bore the same names. Thus we now know, for example, that Hans Schultes, Hans Krauwinckel, and Wolf Lauffer, were not three persons, but six. The following short pedigrees, based on his results, are here brought down only so far as to cover the period dealt with in this paper.

SCHULTES

Iorg Schultes.
(d. 1559.)

His was an old gild family, and the name occurs in the records of the Braziers and Spangle-makers of Nuremberg from 1450 onwards. On his tombstone in St. Rochus Cemetery there is represented a Ship-penny, and his portrait at the age of 42 is preserved on a medallion now in the *Nürnbergisches Minzkabinett*. He was the only maker who ever called himself *Spengler* on a counter: this was a Venus-penny. His mint-mark was a crown.

Hans Schultes I
(d. 1584.)

Counters bearing his name, or initials, that are most like his father's work are probably by this Hans Schultes, with which we may include those of Venetian type struck on very thick flans for exportation to Venice (e.g. Barnard, pp. 221-2, Nos. 79, 80). He, too, used a crown as mint-mark.

Hans Schultes II.
(d. 1603.)

Hardly any *Rechenpfennige* can be attributed with certainty to him.

Hans Schultes III.
(was working at
any rate from
1608 to 1612.)

The signed counters of finer work, resembling the issues of Hans Krauwinckel II, may be regarded as his.

KRAUWINCKEL.

. Krauwinckel.

Damianus Krauwinckel. (d. 1581.)	On his brass in St. John's Cemetery, Nuremberg, is shown a counter of the Gulden type. (Illustrated by Gebert, p. 66.)	Hans Krauwinckel I. (d. 1586). No counters of his are known.
Egidius Krauwinckel. (d. 1618.)	Hans Krauwinckel II (d. 1635).	

Hans Krauwinckel II

(d. 1635).

This was the most prolific of the issuers of *Rechenpfennige*. He was in partnership with his brother Egidius, and during the latter's lifetime some pieces were struck that bore their joint signatures (e. g. Barnard, p. 214, No. 41, and Gebert, p. 69). His dies were probably all cut by Valentin Maler or by Valentin's son Christian. At his death the business passed to his brother-in-law Georg Lauffer, son of Wolf Lauffer I (see below).

LAUFFER.

Wolf Lauffer I.

(d. 1601.)

Georg Lauffer. (d. 1647.) Brother-in-law to Hans Krau- winckel II (g.v.)	Hans Lauffer I. (d. 1632.) On his tombstone in St. John's Ceme- tery appear three <i>Rechenpfennige</i> . (Illustrated in Gebert, p. 91, but their types are not decipherable.) An oil portrait on panel of him at the age of 42, made in 1626 by Lorenz Strauch, of Nuremberg, is now at Hamburg. (Reproduced by Gebert, p. 88.) This is the only known painted portrait of a Nuremberg <i>Rechenpfennigmacher</i> .	Mathäus Lauffer. (d. 1634.)	Wolf Lauffer II. (d. 1631.)
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FRANCIS PIERREPONT BARNARD.

MISCELLANEA.

THE COMPANY OF MONEYERS UNDER QUEEN ELIZABETH.

THE following is a transcription of the Charter of Queen Elizabeth to the Moneyers, to which Ruding refers (vol. i, p. 50, note 12).

Harley MS. 698, ff. 13-17 b.

A COPYE OF THE chartear Grantide from the Quene to
the mysterie and companie of the moniers, as
Followith:

ELIZABETH, by the grace of god. Quene of Englande Fraunce and Ierland defendor of the faith, etc. To all whome these presente letters shall come, greeting Wee haue sene the letters patentes of Phillip and Mary our moste deare syster late king and Quene of England of confyrmacion made in these wordes. PHILLIP AND MARY by the grace of god kynge and Quene of Englande Fraunce Naples Iherusalem and Irelande, defensors of the faith Pryncesses of Spayne and Cecyll. [Sicily] Archdukes of Austria Dukes of Myllayne and Brabante, Countyes of Haspurge Flaunders and Tyroll, To all to whome theis present letters shall come greetinge. We haue seen the letters patentes of Edward late kinge of Englande the syxte our moste dear brother, of confirmacion made in thes wordes, EDWARDE the syxte by the grace of god kinge of England Fravnce and Ierlande defendor of the faithe and in yearthe of the church of Englande the supreme hedde, To all to whome these present letters shall come greetinge. We haue seen the letters patentes of Henry latte kinge of Englande theighte our moste deare father, of confirmation made in thes wordes HENRY by the grace of [god] kinge of Englande and of Fraunce and lord of Irelonde to all to whome these present letters shall come, greetinge. We haue seen the letters patentes [of] Henry latte kinge of Englande our father of confirmation made in thes wordes HENRY by the grace of god kinge of Englande and of Fraunce and lord of Irelonde to all to whome thes present letters shall come greetinge. We haue seen the charter of

Edward late kinge of Englande the fourth our progenitor made in thes wordes. EDWARD by the grace of god kinge of Englande and of Fraunce and lorde of Irelonde, to the Archebisshopes Busshoppes [sic] Abbottes, Pryors, Dukes, Earles, Barones Justyces Sheryves, Ryves, mynsters, and all other our faithfull greetinge. We haue seen the letters patentes of Richarde late kynge of England the second after the conqueste made in this wordes RICHARD by the grace of god kinge of Englande and of Fraunce and Lorde of Irelonde, to all to whome these present letteres shall come greetinge, we haue seen the letters patentes of Edward late kinge of Englande our graundfather, made in thes wordes, EDWARDE by the grace of gode kynge of Engelonde lorde of Ierlande Duke of Acquytane to all to whome these present letters shall come greetinge. We haue sene the letters patentes which of famous memorie Edward late kinge of England our father made in thes wordes : EDWARDE by the grace of god [king of] England, lorde of Ireland, Duke of Acquitane to all to whome thes present letters shall come, greeting, KNOW YE that whear as the lorde of moste famouse memory Edward some tyme kinge of Englondre our father. by his leatters pattentes had granted unto the keepers of the CHAUNDGES of the Citie of Londone, and of Caunterbury unto the laborers or worckers, monie makers or coyners and other ministers deputed or appoyned, unto those thinges which touche the office of the Chaundges aforesaid, that as longe as they stande in the service aforesaid they should haue this libertie (that ys to say) that they should be quitt from allmaner Tallagis upon them to be assesseid and they should nott be putt into anie assysez juryes or recognyzaunces and that all such mynisteres shall stonde right before the fore seid kepers of all manner plees and playntes touching them (except onlie plees which unto free hould and unto the croune of our said father specially should appertayne) WE the same graunt. Accepting and willinge unto them more plenteouse grace to doe in this part or behauulf haue graunted unto the kepers laborers or worckemen monie makers or coyners and other the mynisters aboue seide, that as long as they shall stande in our service in the office afore seide be quitt of all manner Tallagis, aydes, prestacons, and controbucions, whatsoever upon them, their Londen and tenementes goodes, and chatteles, or eny of other merchandises from hencefourth to be assesseid and that all the mynisters aforesaid shall stand righte before keperes of all plees and playntes touchinge them (excepte onlie plees which unto free hould and to our

croune doe apertayne) and yf peradventure yt fortune the seid keper and mynysters by them or with the Comynalty of our realme, aydes or contriybucons whatsoeuer of ther owne propre will shall graunte unto us in tyme to come WE WYLL that the same ayedes or contriybucons apon them by the keepers of the chaundges aforeside shal be assessed and levyed, and that the same keepers by the Barons of our Exchequer and of our heyers for the tyme beinge shalbe taxed for the Aydes aforesaid so that for the same assencion or levacon of the same Aydes and contriybucons eny other then the keepers aboue saied shall not in enwyse entermedell. IN WITNESS whereof these our letters we haue caused to be made patente Wittnes myself at Westminster the First day of March in the year of our reaine the seconde. AND WE hauing the grauntes aforesaid fyrme and stable for us and our heyers as much as in us ys. We doe accept approue Ratefie and unto the foreseide keepers workers or laborers coyners and other mynisters aboue seid doe grant and confirme IN WITNESS wherof thes our letters we haue caused to be made patente Wytness myself at Croydon the Foureth daie of Marche in the year of our reigne the Fyfte. AND WE the grauntes and confirmacons afore seide fyrme and stable hauing, these same for us and our heyers as much as in us ys doe Accept approue ratyfie and to the foreseid keepers laborers or worckemen coyners and mynysters aboue seid do graunte and confirme, as the letters afore seid reasonablie do testyfie and declare and as the same keepers labores and worckemen and mynysters those same liberties and dischardges reasonablie haue used and enjoyed, IN WITNES wherof these letteres we haue caused to be made patentes wyttnez my self at Westminster the tenth daie of February in the First yere of our reigne. AND nowe at the humble suttie of our welbelouid nowe the keper of our chaundges the laboreres coyners mynysters, deputed or appoynted unto these thinges which do towch thoffices of the Chaunges aforesaide WE DOE perceve and understande howe they and ther predycessors, of and upon the lybertyes and prvyledges aboue specfyed for the double ambyguite darcknes and dyffycultis of certen generall wordes and termes in the letteres aforesaid contayned. haue bynne molestead Inquyeted and vexed, and they nowe, the keepers workemen Coyners and mynysters doe feare them and ther successors heareafter to be more greued inquyeted and vexede, WHEREUPON they haue most humblie supplied unto vs that of our grace we wolde gyve unto them WE the premyses considering

and presentlie seing before *our* eyes, that, the same nowe
keapers—labreres coynners and mynisters all ther owne
propre busynez leue to be undone, and abowte thoccupacon
of thoffycez aforeseid not onlie in the Cittyes aforeseid but
also in *our* towne of Callyce & all & singuler other Cyttes
and townes at our commaundement from tyme to tyme must
be WILLYNGE them therfore suche pryvileiges to enioye
and lyberties to use that everie one aboue thoccupacons of
thoffycez aforeseid may more quietly entente and themselves
unto the same most spcyally appley at *our* heiers comaundement
ffrome hencefourth to be bounde OFF Our especiaill
grace and sure knowlege the letteres grauntes & confirmacione
aforseseid and all and singuler thinges conteyned in
the same hauinge fyrme and stable those same for vs and
our heyers as much as in us ys. we doe accepte approve and
ratifye and unto the aforsaid keapers of our chaundges in
the Citties and tounes aforeseid and to the worckemen
coyners and other mynysters unto those thinges which do
concerne thofficez of the Chaundges aforeseid deputed or to
be deputed and to ther successors WE DOE graunte and
confirme, and that the same dowbtes. ambyguyties. darke-
nese. and dyffycultie. may be utterlie taken away and amoved
WE WILL and of *our* especyall grace and certeyne know-
ledge aforeseide for us and our heires haue graunted unto the
aforseide now keapers of our chaunges and to the worckemen
coyners and other mynisters aforeseid that they and their
successors of one keper of our chaunges and the worckemen
Coyners and other mynisters deputed and to be deputed
unto those things which should towche the offyces afore-
saied shalbe from henceforth one bodie perpetuall and one
commonaltie perpetuall in deade and in name and shall
haue perpetuall succession. And that the same keper
worckemen Coyners and mynisters and ther successors by
the name of the keper of the chaunges aforeseide and of the
worckemen coyners and other mynysters deputed unto those
things which to the offyces aforesayed be persons able and
of capacytie in laue to purchayce land tenement rents and
possessions TO HAUE and to hold to them and ther
successors aforeseid for euer and that the same now keper
worckemen laboreres coyners and mynisteres and ther
successors aforeseid by the same name may Implead and
be Impleaded answer and be answered, in all plees playntes
suites Accons and demaundes moved and to be moued in
whatsoeuer *our* cortes or of *our* heires and of enie other
whatsoeuer, and may haue commen seale. to serue for ther

busynez foreuer. And that the same nowe keeper, worke-
men, coyners and mynisters and ther successors afore seid
shall not be putt nor any of them shalbe putt in eny assysez
juries Inquisicions attayntes graund Assisez or recogni-
saunces. whatsoever. agaynst ther will althoughe yt touche
us our heiers or eny other whatsoever. And that all the
same worckemen Coyners and mynisters which nowe bee
and which for the tyme shalbe shall stonde right befor the
same kepers of al maner plees suttes. Acconns and playnttes
touchyng them selfes and plees to freehold and specialie apper-
tayning to our crowne onlie exceptede. AND THAT none
of the same nowe keeper workemen coyners and minysters
and ther successors a foresaid be made major Sheryfhe and
eschetor Constable baylieff collectour sercher or assessor^r of
the tentes fyfenes, subsides tallagis or other Impositions
unto us or our heyres by eny manner of meannes to be
graunteded or of eny parte of them or eny other officer or
mynister whatsoeuer of us or our heyres or of eny of others
whatsoeuer ageynst theyers will, AND that the same nowe
keper worckemen coyners and mynisters and ther successors
aforesaide and ther predissessors late kepers of our chaunge
aforesaid and worckemen coyners and mynisters unto those,
those things which thoffycez aforesaide doe towche deputed
and their successors foreuer shalbe quytte. And exonerat,
and everyone of them be quite and exonerate foreuer in our
cyttee of London and in our towne of Callyce and in all
other cyttes and townes of all and singuler Assysez lones
of and for wine ale beare and all vytuall what soeuer to be
mad of all and singuler tollages Aydes gayftes contrybuccons
fyfenes tentithes scottes subsedies and all other Imposycons
whatsoeuer unto us or our predycessors or pregenytors Latte
kinges of Englande by the Comynaltie of the Realme of
Englondre or by eny other meannes graunted, unto us and our
heyres here after to be graunted and of parte and parcell of
them and of everie of them. And that they or eny of them for
the premyses or any of the premyses in ther Londen ten-
ments Rentes or goods and chattelles shalbe dystreyned, mole-
sted, or in eny of them greavid neatherbe distreyned molested
or in enythinge greued. BUT of such tollages Aydes loanes
contrybuccons fifteenes tenthes subsedies scottes and other
Imposycons. whatsoeuer, and for euery parte thereof before
our tresorer and barrones and of our heyres of thexchequour
from tyme to tyme maye haue due allowance and dischardge
foreuer. And that whatt so ever of cornehaye horsce grayne
plougue carryages shepe hogges pygges cartes oxen poultre

or other merchandise thinges goodes victuales and chatteles of what soeuer kinde they be of eny of the foreseid keper worckmen Coynners or ministers or of their successores against ther will by eny purveyour of our householde or of our heyers or by eny other our offycers mynysters of our heres aforesaid or of enie othir whatsoever, shall not be taken by enie meanes enie statutes, acte, ordinance, use, coustom or provysione to the contrarie made ordeyned used and provyded, and eny other thinge cause or matter whatsoeuer not with standing thes beinge wyttnessez THE Reverende father Thomas¹ of Caunterburye Prymate of all Englande, our dearlie beloued cosene Wyllyam² of Yorke of Englande Prymate Archebusshopp. G[eorge]³ of Exeter oure Chancellor and W[illiam]⁴ of Ely busshopp our deare Cossenes George of Clarence & Richard of Gloucester Dukes, our dearest brothers Richard of Warwyke of our chamberlein of England and Henry⁵ of Essex our Treasurer of Englonde Earles and our deare Cosenes and our trusty and wellebelovyd, Williame Hastynge of Hastings Chamberleyn of our householde and Humfrie Suthwyke knighthes & our wellbeloued Clark Mr Roberte Stylyngtone keper of prystie seale and others YEOUEN by our hande at Westminster the XXth day of February in the year of our reigene the fyrste [1462]. AND we the aforesaide charter, and all and singuler in the same conteyned fyrme and stabell havinge the same for us and our heyers as much as in us ys to doe, accepte and approue and unto our welbeloved nowe the keperes of or [our] chaundges aforesaid in the Citties & townes aforesaid & unto the worckmen Coyneres and other mynisters aforesaid and to ther successors doe ratifye and confirme as the Charter aforesaid doth reasonably wittnes. IN WITNES thereof these our letteres we haue cawsed to be made patentes Wittnes myself at Westminster the XXIth daie of November in the thirde year of our Reyne AND we the aforesaid Charter and all and euerythinges in the same conteyned fyrme and stable hauinge the same for us and our heiers as much as in us is doe Accept and Approue unto our welbelovid nowe the keepers of our chaunges aforesaid in the Citties and townes aforesaid and unto the worckmen coyners and other mynisters aforesaid and to ther successors we doe ratify and confirme as the Charteres aforesaid reasonably doe testefye. IN WITNES

¹ Thomas Bouchier. ² William Booth. ³ George Nevill.

⁴ William Grey. ⁵ Henry Bouchier, 1st Earl of Essex.

whereof these our letteres we haue caused to be made patentes wittinez my self at Westminster the fyrist daye of June in the year of our reigne the ffowrthe, AND we the aforesaid charter and all & every thinge in the same conteyned fyrmē and stable hauing the same for us & our heyers asmuch as in us ys doe accept & approue. and unto our welbeloued nowe the kepers of the Chaunges in the Cyttes & townes aforesaid and unto the worckemen coyners and other mynisters aforesaid reasonable doe testifie IN WITNES whereof theise our letters we have caſwed to be made patente wittness my self at Westminster the XXVI daie of March in the Fy[r]ste year of our reaigne AND we the aforesaid Charter & all & euery thinge in the same conteyned firme & stable having and the same for vs our heyers and successors as much as in vs ys doe accept and approue, And vnto our wel beloued now kepers of the Chaunges aforeside in the Ctties and townes aforeside and to the laborers Coyners and other the mynisters aforesaid & to ther successors doe ratefy & confirme as the charter aforesaid reasonable doe testyfie. IN WITNES wherof thes our leatters we haue caused to be made patentes Witnessez ourſelf at Westminster the tenth daie of marche in the year of our reaigne the fyrist & second. [Phill. & Mar.] AND we the aforesaid Charter & all & every thinge therein Conteyned fyrmē and stable hauinge. And the same for us our heyres and successors as much as in us ys doe Accept and Approve to our welbeloued now etc. etc. and to the laborers coyners & other mynisters aforesaid & to their successors doe rateyfy & confirme as the charters & letters aforesaid reasonable doe testyfy.

In Wytnes wherof these our letters wee haue caused to be made patentes Wyttnez owre ſelf at Westminster 26 daye of November in the year of our reigne the ſeconde.

R. A. C.

THE USE OF COGNOMINA AT SMYRNA.

THE names of the magistrates responsible for the issue of the coinage at Smyrna in the second and first centuries B.C. are given on the coins, especially those of the larger sizes,—silver tetradrachms and bronze Homereia,—more fully than is commonly the case in the autonomous series of Asia

Minor mints. The personal name is frequently accompanied by a patronymic or a monogram or a second name: and the instances of the last-named class are worthy of note, because, while the use of patronymics has parallels in other cities of Ionia (Erythrai and Magnesia adopted the practice a good many years earlier than Smyrna) and elsewhere in Asia (e.g. Sardeis), there does not seem to be any other place in that part of the Greek world where names which can only be explained as *cognomina* occur on the coins.

Inscriptions of Smyrna of the same period give examples of the full nomenclature: for instance, C. I. G. 3141 mentions Ἀπολλοφάνης Ἰκεσίον δ καλούμενος Πρωτίων and Μοσχίων Μοσχίωνος δ καλούμενος Σαραπίων, C. I. G. 3143¹ Μόσχος Μόσχου δ καλούμενος Δυσίμαχος and Ἀσκάνιος Δημητρίου δ καλούμενος Πρασίας. Only one coin gives a triple name with both patronymic and cognomen, but double names are fairly frequent, and the following list includes all those which may be taken as *cognomina*:

- Menekrates *Agrios*.
- Artemidoros *Althas*.
- Dionysios } *Baus*.
- Metrobios
- Apollas *Galates*.
- Artemon *Gellias*.
- Nikadas Metrodorou *Theudas*.
- Athenagoras *Korymb*(as?).
- Menophilos *Krabans* (? *Kra Baus*).
- Phanes *Kyndalas*.
- Nikias *Leptos*.
- Apollonios *Magas*.
- Glaukias *Medos* (?).
- Dionysios *Motylos*.
- Apollophanes *Orobitenos*.
- Apollonios *Sepia*.
- Hermogenes } *Trikkas*.
- Charixenos
- Theotimos *Hylas*.
- Hermogenes *Phrixos*.

It will be seen that in some cases the cognomen may be an ethnic: Apollas Galates is clearly such, and so is Glaukias Medos, if the reading of the latter is correct: Hermogenes and Charixenos Trikkas are possibly of the same class. But other names are as clearly sobriquets, for instance, Menekrates Agrios, Nikias Leptos, and Apollonios Sepia: and it

is possible that a similar origin may be ascribed to such names as Phanes Kyndalas (? connected with κύνδαλος, peg), Athenagoras Korymbas (possibly from κόρυμβος in the sense of a knot of hair), and Theotimos Hylas (either from a mythological source, or ἥλαις in the meaning of "back-woodsman"). Baus is probably a magisterial title, and a syncopated form of Basileus.

It is perhaps permissible to trace this use of *cognomina* at Smyrna to Roman influence. Smyrna, as is well known, was the first among the cities of Asia to recognize the coming greatness of Rome, and early in the second century B.C. devoted herself to winning Roman favour. It is towards the end of that century that *cognomina* begin to occur on the coins of Smyrna, and it would not be unlikely that this was prompted by the desire to copy Roman customs which can be traced in other directions.

A tempting suggestion is to identify Nikias Leptos, who was in office probably in some year during the decade 80-70 B.C., with the Nicias Smyrnaeus mentioned in a letter of Cicero (*ad Quintum fratrem*, i. 2) written in 59 B.C. The dates agree sufficiently well: and, if the identification be allowed, it is interesting to note that Cicero names his Nicias in a list of examples of Asiatic *levitas*, and qualifies the man cited just before, Megaristus of Antandros, as *levissimum hominem*. If Cicero knew the nickname Leptos, it would be quite in accordance with his style to bring in such a reference to it.

J. G. M.

AN ARGIVE HOARD.

A SMALL hoard of 215 copper coins, all of Argos, but one dating B.C. 228-146, was recently found in Argos town and reached Athens. The general condition was good. The coins were of four general types:

1. *Obv.*—Head of Apollo laur.; hair rolled.
Rev.—Wolf at bay. B. M. C., No. 128 (type to r.)
2. *Obv.*—Head of Apollo laur.; hair rolled.
Rev.—Tripod lebes. B. M. C., No. 131-4.
3. *Obv.*—Wolf's head r.
Rev.—Quiver. B. M. C., No. 138.

4. *Obv.*—Head of Hera r.

Rev.—Quiver.

B. M. C., Nos. 140–6.

Actual numbers are:

B. M. C., No. 128	42
(vars.)	5
131	81
(vars.)	9
133	10
134	11
138	10
140	38
(vars.)	14
143	2
144	29
146	9
Undecipherable	4
	<hr/>
	214
	<hr/>

Varieties.

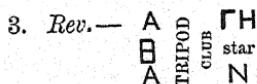
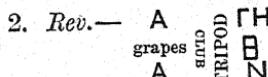
B. M. C., 128. Var. 1. *Rev.*—Above,  A.
Below between legs, KA.

2. *Rev.*—Above, A.
Below, .

3. *Rev.*—Above,  A.
Below between legs, KA.
under neck, E.

4. *Rev.*—Above, A.
Below in front, A.
between legs, (?).

B. M. C., 131. Var. 1. *Rev.*—No M



4. *Rev.*—Similar to No. 3, but no star.

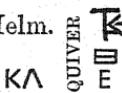
B. M. C., 133. Of these seven have the Δ above the club and the K below.

Three have the Δ above the club but the K is to the l. of club.

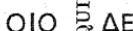
B. M. C., 134. Of these four have the Δ above and the K below the ear of corn.

Seven have the K to the right of bottom of the ear of corn.

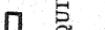
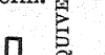
B. M. C., 140. Vars. 1. Helm.



2. Helm.



3. Helm.



With these came a coin of Megara of the same types as B. M. C., *Attica*, &c., p. 119, Nos. 16-18.

F. B. WELCH.

ANCIENT BRITISH COINS RECENTLY FOUND AT MOUNT BATTEN, PLYMOUTH.

DURING the construction of an aerodrome at Mount Batten, Plymouth, several examples of Ancient British coins were discovered, all of them uninscribed. In all, one gold coin and four of silver and a similar number of bronze were found during 1917. A brief note is here given of these coins pending the preparation of a full report of the antiquities found on this site.

1. Gold. Weight 0.968 grm. (15 grs.). Concavo-convex.
Much worn.

Obl.—Convex, perfectly smooth.

Rev.—Two patches of small pellets are all that are now discernible, together with the remains of a swelling which might be construed as the body of a horse.

2. Silver. Weight 5·34 grm. (82·5 grs.).

This compares exactly with Evans B, 6, which, however, is a gold coin. F, 2 is silver, and the only serious difference is the total absence of "ring ornaments" on the Batten specimen.

3. Silver. Edge corroded, incomplete. Weight when found 0·475 grm., now 0·450 grm. (7 grs.).

Ov.—Very rude head to r., possibly helmeted.

Rev.—Horse to r., wheel below and something of the same sort above.

This belongs to the series Evans F, 4–8, but does not resemble any of them very closely. The horse is more of the "Channel Islands" build.

4. Silver. Weight 1·15 grm. (16 grs.).

Ov.—A rude head with crescents behind.

Rev.—Horse to l., triple tailed. Rosette below practically obliterated.

Evans F, 4.

5. Silver. Weight 1·215 grm. (19 grs.). Very similar to the above but the crescents are beaded. The coin is in a better state of preservation.

Evans F, 4.

6. Bronze. Weight 3·34 grm. (52 grs.). Fairly good condition.

Ov.—Laureate head to r., with band and crescents; swelling in front is on the edge of the coin and sufficiently pronounced as to resemble B, 6 (gold) as much as G, 5, which is bronze.

Rev.—Pellets are more numerous; the "circle crossed by a line" is present and the exergual line is discernible.

Evans G, 5.

7 and 8. Bronze. Weight 1·05 grm. (16 grs.) and 1·07 grm. (16·5 grs.).

Both coins are fairly well preserved and readily referable to Evans F, 4 (silver).

9. Bronze. Small and thick. Weight 0.66 grm. (10 grs.).

Obv.—Group of four lanceolate rays, a lyre (?). Two pellets with tails.

Rev.—Undecipherable.

I am at present unable to refer this coin anywhere.

All references are to the plates in Sir John Evans's *Coins of the Ancient Britons*. The coins themselves are in the Plymouth Municipal Museum.

T. V. HODGSON.

BEESTON TOR FIND OF ANGLO-SAXON COINS.

A find of forty-nine Anglo-Saxon pennies of the ninth century, with three gold rings and a silver brooch, was made in a cave at Beeston Tor, Wetton, Staffordshire, in September of this year by the Rev. George H. Wilson of Chorlton-cum-Hardy. A note of the circumstances of the find was published in the *Daily Mail* of 29th September, 1924.

With one exception the coins are all of the so-called "Burgred" type and were issued by Burgred of Mercia (853-874), Archbishop Ceolnoth of Canterbury (833-870), Aethelred of Wessex (866-871), and Aelfred (871-900). The one exception is a coin of Aethelwulf of Wessex (838-858).

The coins are described in detail below.

BURGRED OF MERCIA. 20 coins.

Type B. M. C. a.—*Obv.* Bust to r. *Rev.* Inscription in three lines, the top and bottom enclosed in lunettes.

			grs.
1.	BVRREDREX-+ BEALZTA	••IMON•• ••ETA••	19.5
2.	BVRREDREX-	„ ••IMON••	„
3.	BVRREDREX+ „	„ „ „	17.3
4.	BVRREDREX-Μ CVHEHEL	MOH ETA••	20.9
5.	BVRREDREX- DEHEPAL	••DMON•• ••ETA••	19.3
6.	„ +DICA::	:MOH: :ETA:	

7. BVRGREDREX	+DVD λ	MON	•ET λ •	15.5
8. BVRGREDRE+	EALDVF	••MOH•	••ET λ ••	18.4
9. ,,	E θ LZT λ N	••MON••	••ET λ ••	20.7
10. ,,	E θ ELZT λ	MON	ET λ ••	19.4
11, 12. ,,	E θ ELVLF	••MON••	••ET λ ••	21.6
13. ,,	CV θ H λ ERE	••MON••	••ET λ ••	21.1
14. BVRGREDREX	CV θ H λ ERE	MON	ET λ	21.2
15. BVRGREDREX-	CVDMVH	••DMOH••	••ET λ ••	20.0
	(from same reverse die as B. M. C., no. 305.)			
16. +BVRGREDREX-	HVS λ A	MOH	ET λ	22.4
17. BVRGREDREX	+T λ T λ :	••MOH••	••ET λ ••	20.4
18. BVRGREDREX-	TIDMELM	••MOH••	••ET λ ••	20.0

Type B. M. C. c. Each lunette replaced by a curve and double crook.

19. BVRGREDRE+	CVNEHL	MON	ET λ	
20. +BVRG+ •EDREX-	+VVINE	MON	ET λ	21.5

The obverse of this coin is of very rough work; the inscription begins above the head and is divided by the bust.

ARCHEBISHOP CEOLNOTH. 1 coin.

Type as Burgred type a, but obverse inscription begins above head and is divided by the bust (cf. B. M. C., no. 60, pl. XIII. 8).

21. +CEOLNOD ARCHIEPT-	TO λ LA	MON	ET λ	21.1
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AETHELWULF OF WESSEX. 1 coin.

Type B. M. C. xvii. *Ov.* Bust to r. *Rev.* Inscription on and between limbs of cross.

22. +ÆDELVVLFEX	EDELN	OD MO NET λ	15.7
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AETHELRED OF WESSEX. 7 coins.

Type B. M. C. i (as Burgred type a, but obverse inscription begins above the head and is divided by the bust).

23. +ÆDELRED REX	BI λ RNV λ	NEMO	NET λ	19.6
24. ,,, ,,	+ELL λ •:	:MON:	:ET λ :	18.8

25. +ÆDELRED REX	+LĀNG	MON	ETĀ	18·2
26. " "	LIĀBINC	MON	ETĀ	
27. ELDEREDMX-TX:	TIRVLF	•MON•	•ETĀ•	16·3
28. +ÆDELRED REX	TORHTMV	NDMO	NETĀ	

trefoil of pellets above top line of inscription.

Type B. M. C. i a (as Burgred type *d*; inscription divided by two double crooks).

29. +ÆDEREDREX	EÐERED	•MON•	•ETĀ•	19·3
	obverse inscription begins at shoulder and is not divided by bust.			

AELFRED. 20 coins.

Type B. M. C. i (as Burgred type *a*, but inscription begins above head and is divided by the bust).

30. +ÆLBRED REX	+BOSĀ	•MON•	•ETĀ•	18·4
31. " "	"	"	•ETĀ•	
32. " "	DVNN	•MON•	•ETĀ•	19·4
33. +ÆLBRED: REX	EĀDVLF	•MON•	•ETĀ•	17·7
34. +ÆLBRED REX	EDELERE	•MON•	•ETĀ•	23·8
35. " "	ELBERE	•MON•	•ETĀ•	
36. +ELFREDREX	ELELĀF	"	"	17·7
	the obverse inscription begins at shoulder and is not divided by the bust.			
37. +ÆLBRED: RE+	EÐELEĀ	•HMGN•	•ETĀ•	18·8
38. +ÆLBRED RE+	EÐELMV	•NDMO•	•NETĀ•	15·1
39. " "	EÐERED	•MON•	•ETĀ•	20·2
40. +ÆLBRED REX	EÐELVLF	•MON•	•ETĀ•	16·3
41. XÆLBRED RE+	HEĀBEĀ:	RHTMO	NETĀ	20·3
42. +ÆLBRED RE+	TORHTMV	•NDMO•	•NETĀ•	15·6
	trefoil of pellets above top line of inscription on reverse.			
43. +ÆLBRED: REX	VVINE	•MON•	•ETĀ•	20·0
44. +ÆLBRED REX	VVLFEĀR	•DMO•	•NETĀ•	17·3

Type B. M. C. i a (as Burgred type *b*); lunettes broken in centre of curve.

45. +ÆLBRED REX	TIDBEĀR	HMO	NETĀ	14·5
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Type B. M. C. i b (as Burgred type c); each lunette replaced by curve and double crook.

46. +ÆLBRED•• RE+	BIÆRNRE	DMON	ETΛ	19.0
47. +ÆLBRED•• REX	EDELERE	MON	ETΛ	16.9
48. +ÆLBRED REX	VVLFEAR	DMON	ETΛ	19.5

Type B. M. C. i c (as Burgred type d); double crooks only separating lines of inscription.

49. +ÆLBRED REX	DIÆRVLF	MON	ETΛ	13.6
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The weights of the coins were taken after cleaning.

It is evident that, with the exception of the Aethelwulf penny, all the coins were struck within a very short period; the "Burgred" type must be the earliest type of the reign of Alfred. There can be no doubt that the hoard was deposited within a year or two of the accession of Alfred (April 871).

The other objects of the find will be described by Mr. Reginald Smith in the *Antiquaries Journal* (April 1925).

G. C. B.

A FIND OF EDWARD PENNIES.

ON June 10th, 1924, a hoard of about 320 coins was found in a broken earthenware vessel under the stone flag in the kitchen of George House in Scotton, Yorkshire. In the appended list the classification of English pennies is that of Fox in *B.N.J.*, vols. VI ff.

English Pennies (Edward I-III) :

I c of London	2
II of London 4, of Bristol 1	5
III (d-g) Bristol 2, Canterbury 9, Durham 1, Lincoln 2, London 13, York 4	31
IV (a-c) Canterbury 3, London 4	7
IV e (pellet on breast) London	3
VI Durham	1
VIII London	3
IX Bristol 1, Canterbury 3, Durham 2, London 23, Newcastle 5, Bury 4, York 2	40
Carried forward	92

	Brought forward	92
IX/X	Mules of Newcastle	2
X/IX	Mules of London (Edward 2, Edwar 2, Edwa ? 1, Edwr ? 1)	6
X	Canterbury 27, Durham 11, London 69, Bury 6, Uncertain 1	114
XI	Canterbury 10, Durham 1, London 15, Bury 3	29
XII	Canterbury 1, London 1	2
XIII	Canterbury	3
XIV	Canterbury 7, Durham 1, London 6, Bury 1	15
XV	Canterbury 10, Durham 4, London 9, Bury 5	28
	Uncertain Types	13
		—
		304
	Berwick pennies 3, Scottish of Alexander III 6, Irish of Edward I 3	12
	Continental sterlings of Serein (Chautard 234) 1, of Toul (Chautard 197) 1	2
	Contemporary forgery of Edward I penny	1
		—
	Total	819

All these coins are in poor condition; a few fragments are with them. It is curious that the coin of Toul, if its attribution to Thomas de Bourlemont (1330-1353) is correct, is the only coin in the hoard struck so late as 1330. Probably the attribution is wrong; coins with a similar reverse are attributed to Ferri IV of Lorraine (Chautard).

G. C. B.

DANDYPRATS.

Mr. J. P. GILSON, Keeper of Manuscripts in the British Museum, sends the following extract from a letter of R. Roche to his son David in London (Eg. 3009, f 2): "Ye schall rec' xxs. in ryt grottes and dandyprattes which I thynke schall stand for englys mony styd and so we do sett them out in the partys of brystowe."

The letter appears to have been written somewhere between 1530 and 1535. From the context it is likely that by dandypratte the half-groat is meant.

G. C. B.

MONEY FOUND IN THE TREASURY, 14 EDWARD II.

Memoranda Rolls. K. R. 94, L. T. R. 91.

Communia-Pasche-Recorda.

De diuersis monetis inuentis in Thesauraria Regis fusis et monetatis et liberatis ad receptam scaccarij.

Johannes Deuery venit hic .xxij. die Maij hoc anno et detulit hic quandam cedula[m] attachiatam Rotulo alterius Rememoratoris in qua continetur sic. Memorandum quod de .xlij.li.v.s.vj.d. pollardorum Crokardorum et alterius monete diuerse inuente in Thesauraria domini Regis apud Westm' sexto die .Maij .anno .xiiij^{mo}. monetatis deducto monetagio, valent .xvij.li.vj.s.j.d. ob.

Item de .xx.li.x.s. albe monete false contrafacte sterling', ibidem die et anno predictis inuente monetatis deducto monetagio valent vj.li.xvij.s.xj.d. ob.

Item de .xv.s.vij.d. Turron' grossorum inuentorum ibidem die et anno predictis venditorum, videlicet Turron' pro .ij.d. sterlingorum xlvijs.

Item de sterlingis inuentis in diuersis pixidibus in Thesauraria Regis in Turri London' de Cambijs London' et Cantuar' de diuersis annis Regis .Edwardi .filij Regis .Henrici .de tempore quo Johannes de Cadurco et Gerardus Maygham fuerunt Magistri monete ibidem .unde summa xxvij.li.vij.s.ix.d.

Item de diuersis assaiis ponderantibus — cxvij.s.ij.d. inuentis in predictis pixidibus monetatis deducto monetagio valent vj.li.xvj.d.

Item de sterlingis scisis inuentis in predictis pixidibus ponderantibus .xv.li.xv.s.x.d. monetatis deducto monetagio valent xv.li.iiij.s.vj.d.

Summa totalis. — lxxvij.li.v.s.vij.d. que intrantur in Rotulo Recepte ad scaccarium recepte .die veneris .xxij. die .Maij .anno .Regis .Edwardi .filij .Regis .Edwardi .xiiij^{mo} .sub istis verbis — De diuersis monetis inuentis in Thesauraria Regis fusis et monetatis.

[The schedule is duly sewn on to the membrane in the L.T.R. roll, in which the whole matter is enrolled as in the K.R. roll.]

Receipt Roll. E 401/235. Easter. Die veneris xxij. die Maij .
14 . Edward . II.

De Thesauro Regis —— De Diuersis monetis inuenitis in
Thesauraria Regis fu- Unde particule sunt
sis et monetatis; —— inter Recorda ad Moneta.
Lxxvij·lī ·v·s ·vij·d· scaccarium de isto
termino Pasche prout
continetur in cedula
huic Rotulo annexa.

[A large schedule of particulars and amounts is sewn alongside]
this entry in the R. R.

DOROTHY M. BROOME.

REVIEWS.

Athens. Its History and Coinage before the Persian Invasion.
By C. T. SELTMAN. Cambridge University Press. pp.
xix + 228. 24 collotype plates. £2. 2s.

THIS is a book which no student of the coinage of Athens can afford to neglect. It presents in orderly form a complete survey and illustration of the whole of the pre-Persian coinage in all the die-varieties accessible to the author; and though he continually tends to drive his theories farther than the evidence allows, the purely numismatic work is, on the whole, excellent.

It is a remarkable fact that the progress of the last century should have left so many unsolved problems in the early numismatic history of the most important state of the Greek world. What was its earliest coinage? In what precisely did Solon's reforms consist? Are the *Wappenmünzen* wholly or partly Attic, or do they rather belong to Euboea? Mr. Seltman's work will help us towards a solution of some at least of these and kindred problems, though we venture to think that few will accept his conclusions in the detail and with the confidence with which he propounds them. The framework of the Attic coinage which he offers us is as follows: (1) *Pre-Solonian*, incuse staters, &c., of Aeginetic weight with the amphora (hitherto assigned to Andros or Carthaea in Ceos). (2) *Solonian*, incuse didrachms, &c., of Euboic weight with amphora type (*Wappenmünzen*). (3) *Post-Solonian*: *Wappenmünzen* of other types running down to and overlapping with (4) *Pisistratid* and post-Pisistratid: Euboic-Attic tetradrachms, &c., with Athena and owl, interrupted during the years of Pisistratus' exile by further *Wappenmünzen*, and on the expulsion of Hippias by an issue of tetradrachms with the gorgoneion and bull's head (hitherto assigned to Eretria). The *Wappenmünzen* form the point of departure. These coins have long been recognized as forming a homogeneous group in point of standard, incuse pattern, fabric, and types. The early French school of numismatists assigned them to Athens, though of late years the prevailing view has been that they should be distributed among other cities near by, chiefly in Euboea, with an occasional

reservation in favour of Athens for the owl and the amphora types. Mr. Seltman has found, on examining their reverses, that several with different obverse types (e.g. amphora and triskeles, wheel and hindquarters of horse) share common reverse punches. In this connexion one wishes that the illustrations offered more opportunity of checking his results. These incuse punches are all approximately of the same dimensions and pattern, and they appear to have cracked and chipped very rapidly; it is a much more difficult task to determine whether coins are from the same punch when that punch is of the incuse kind than when it bears a type properly so called. In the collotype plates only one example of each punch is figured, and the half-tone pictures in the text which show side by side both faces of coins with different obverse types, said to have been struck from the same punch, have lost considerably in detail. Thus, while the claim seems justified for the amphora and triskeles types and a few beside, the case for others looks much more doubtful. In the only group in which I have been able to examine the actual coins (that containing the early forepart of horse to left, the beetle and the astragalos, Nos. 19-21), I cannot agree that any two share the same punch. The argument is not, however, materially weakened by one failure, and Mr. Seltman is thus enabled to establish the old French hypothesis on a firmer basis. He draws further support from an examination of the types themselves. Some, though not all, are surrounded by a heavy circle suggesting the rim of a shield. All occur as shield devices in Attic vases of the sixth and fifth centuries. For Mr. Seltman, the vase painters copied the shields which they saw about in the streets, and the devices on shield and coin are, in general, the badges of the great Eupatrid families. That coins at this early date should be regarded as pieces of metal sealed with the badge of the issuing authority, whether personal or civic, is inherent in the theory of coin types. That personal badges were commonly carried at the period is unquestioned, and in some cases a son may have adopted his father's badge. Further, that some Alcmaeonids in the time of Hippias used a white leg or legs as the charge on their shields emerges from an (emended) passage of Aristophanes. But in stressing the hereditary nature of the badges and in his assignment of them to particular families, with consequent historical inferences when they occur on the coins, Mr. Seltman seems to us to go quite beyond the evidence. Certain difficulties present themselves at once. The parallelism

between shield devices on Attic vases and the coin types is at first sight striking, and extends to such an unusual figure as the hindquarters of a horse. But a considerable proportion of the coin-types (e. g. the wheel, another Alcmaeonid badge according to Mr. Seltman) can also be paralleled on the scanty examples of early Argive and Corinthian pottery, and if the material afforded by the latter were anything like commensurate with the Attic, who can say that the parallelism would not have been as close and, if so, as fortuitous? In this connexion we may remark that Mr. Seltman is able to adduce a parallel shield device for the coin type of the bull to left (p. 28 and p. 155, No. 24), which for reasons to be given later I cannot accept as belonging to this series at all. The coinage and pottery are not contemporary, the one falling in the earlier part of the sixth century, the other in the latter part of the sixth to fifth centuries. Some of the commonest shield devices on the vases, the snake, for example, with its wealth of association for early Eupatrid tradition, have not as yet been found on the coins. The sole authenticated badge, the white legs of the Alcmaeonids, which dates from the end of the sixth century, occurs among the first *Wappenmünzen* only, some eighty years earlier, and is very rare. The difficulty is evaded by assigning a further badge to the Alcmaeonids of the intervening period—the wheel, considered first as a solar, then as an agonistic symbol. Again, if the shield device is something more than personal, should we not expect to see in the vase paintings warriors who fight on the same side bearing the same device? The whole question needs going into from the point of view of the vases, and in the meantime we can only say of the proposed identifications that, the triskeles apart, some are ingenious, some unlikely, and none convincing. No. 24 bears the type of a bull l., which Mr. Seltman knows only from an example in his own collection and which he brings into connexion with the statement of Philochorus that the type of the earlier coins of Athens was an ox. A tetradrachm and another didrachm of the same issue exist—the latter in the British Museum. Apart from the large coarse design (so unlike the small neat horse, its neighbour on the plate) and the smaller and meaner incuse, the tetradrachm is enough to show that No. 24 is not a *Wappenmünze*. I can see nothing in the plate or text-drawing of the "traces of a linear circle indicating a shield" which are noted in the description. These bull coins fall in line with two other didrachms (from the Myt Rahineh Find, *Traité*, ii. 1, col. 1247,

No. 1827, and the Warren Collection, No. 1226) in point of type, standard, incuse fabric, &c., but on the latter, beneath the bull, we have the theta-like "Paeonian" symbol. All should accordingly be given to the Thraco-Macedonian district, to which the style is wholly suitable. This raises the further question whether all of the other coins placed in the series rightly belong here. There exists a unique didrachm of Cyrene which is figured on p. 17 (No. 9 c). Now the didrachm is an almost unknown denomination at Cyrene, and this coin so copies the *Wappenmünzen* in all technical details, incuse, &c. (though like some of them it lacks the typical linear circle enclosing the device), that one would quite naturally class it among them were it not that the type (the silphium seed) is necessarily peculiar to the Cyrenaica. Then what of the unique scarabaeus coin (No. 20), also lacking the linear circle and *not* connected by reverse punch with others of the series? True, the beetle occurs on obols whose provenance is Attica, but in a very different shape, and we must not disregard the possibility that the didrachm was struck elsewhere in conformity with the series, for example at Naucratis. *Wappenmünzen* have been found in the Delta, and it may be suspected that Egypt is the real source of some of the other nondescript archaic coins which have puzzled numismatists; e.g. the strange early Corinthian staters of light weight, and the British Museum coin of Attic weight but Aeginetan type and incuse.

To the second question, in what did Solon's reforms consist? Mr. Seltman gives perhaps the most satisfactory answer possible in the state of the evidence. For him the measures to alleviate the economic distress fall under two heads—increase of the weights and measures and increase from 70 to 100 in the number of drachms in the money mina, the weight of which remained unaltered:—that is, in effect, a change from the Aeginetic to the Euboic standard. He will have nothing to do with the supposed doubling of the standard, which will then, later, have been reduced to the normal by Hippias. Apart from the obvious fact that doubling the intrinsic value of the standard coin is a poor way to help debtors, he pertinently remarks that if the didrachms and tetradrachms before Hippias are really drachms and didrachms, then there was no such coin as an obol, which is almost a *reductio ad absurdum*. If this account of Solon's reforms is substantially correct it postulates an early currency of Aeginetic weight. The author finds this in the so-called "island" coins with the amphora type,

previously assigned to Andros or Carthaea, which he accordingly regards as the earliest product of the Athenian mint. It may be so, but the evidence adduced does not seem sufficient to prove it. In the first place the *advocatus diaboli* would deny that the early currency of Aeginetic weight need be of Athenian mintage: *pace* Mr. Seltman, either view is possible on the literary evidence, and Pollux, for what he is worth, does seem to imply that the coins of Aegina circulated freely in Attica. The important cities of Euboea presumably used the currency of other places till the end of the sixth century. Further, the amphora as a type belongs as much to Carthaea as to Athens. There is a marked difference in the amphorae of the *Wappenmünzen* and of the disputed coins, though both might have been made by Attic potters: the one is rounder, with a bigger belly in proportion to the neck, a collar on the shoulder, and handles coming in below the lip. The other is more elongated, without collar, and with handles coming in at the lip itself, which is more pronounced. These points of difference are equally discernible on the smaller denominations of each issue.¹ So far as size allows and in each point the disputed coins resemble the later amphora type of Carthaea. There remains the evidence to be drawn from the comparison of "dies and mint technique" which "stamps the heavy amphora coins as the pre-Solonian money of Athens" (p. 8). As far as technique goes, the similarity is not striking: The heavy coins are of typical Aeginetic or "island" fabric—dumpier and in bolder relief than the *Wappenmünzen*, and it is somewhat arbitrary to dismiss so consistent a point of difference between the two series as the position of the handles as "merely clumsiness on the engraver's part"; for, on the hypothesis advanced, the last of the heavy coins was made in the same mint, under the same conditions, in the same year and presumably by the same hands, as the earliest of the light coins. The reverse punches also find frequent and close parallels in the early Aeginetic and other island series (e.g. Paros, Thera), and the argument drawn from the alleged resemblance of the last of the heavy amphora punches

¹ The drachm of Aeginetic weight (in the British Museum) figured on Pl. IV. (2) is described in the text as having a collared amphora, but wrongly. The obol with collared amphora figured by Paschalais in *J. Int.* i, Pl. 1B', No. 18, belongs to the *Wappenmünzen* and is *B. M. C. Crete, &c.*, p. 91, No. 23 (wt. 0.62 grammes), not the Copenhagen obol (wt. 1.10) as stated on p. 309, No. 6 (2). Paschalais has interchanged Nos. 18 and 19 on his plate.

to one of the *Wappenmünzen* punches (which is therefore called the first) loses its weight on a closer examination of the punch itself. Its pattern is not, as stated  (which is also that of the light coin), but , somewhat broken down, yet perfectly clear on the British Museum coin.² Until the *advocatus diaboli* is satisfactorily answered, we must still consider the Attic origin of the heavy amphora coins not proven.

The bulk of the work is naturally taken up with the familiar tetradrachms. Mr. Seltman adopts the now prevalent view that their introduction is due to Pisistratus, and divides the long series down to Salamis into nine groups with considerable plausibility. In his own words,³ "It cannot be too sharply emphasized that the whole arrangement rests upon die sequences; each group, A, B, C, &c., is compact; the order within each group is approximately fixed by the sequence of dies, and artistic development makes any alteration in the order of the groups impossible." That is, the succession of groups is determined by the subjective criterion of style; the succession within the groups, which cover sometimes fifteen to twenty years, by the objective one of die sequence. If it were possible to determine the approximate sequence within the group by such an objective method it would be a great advance, but the basis of the claim must be first carefully scrutinized, and the result will show, I think, that Mr. Seltman is too optimistic. As an example of an ideal group, let us take the heavy amphora series discussed above, all the coins of which here cited are linked each to other, directly or indirectly, by the use of common dies or incuse punches. It may be that further knowledge will modify in an instance or two the internal sequence, for sometimes it is a matter of the greatest difficulty to determine which of two coins shows a die in its earlier state. But if we rule out the possibility of dies being laid aside and used again after a considerable period (as does happen occasionally elsewhere, e.g. in Magna Graecia), the group forms a compact whole certified by an objective criterion to be closely related in

² *B. M. C.*, *Crete, &c.*, p. 90, No. 15 is not the coin described in Naville Sale Cat. V (1923), No. 2292 as seems to be implied on p. 152, No. 10 (d). The latter coin was an uncatalogued duplicate.

³ Note facing Chapter I.

time. The groups of owl tetradrachms under consideration fall far short of this ideal. Let us reckon for the moment all coins coming from dies said to have been made from the same hub (though in many cases this must be a matter of opinion) as coming from the same dies. Each group will be found to be composed of what may be called "units", either single coins or else little sets of two or more coins linked by die connexions. Between these "units" there is no die connexion whatever. The largest group (G ii) contains seventy-four coins; these fall into twenty-three disconnected "units", of which eight are single coins, while the largest "unit" contains fourteen coins: for the smallest group (L) the figures are nineteen coins, twelve "units" (of which seven single coins), largest "unit" three coins. For all groups the mean percentage of "units" to coins in the group is forty-two, that of single coins to "units" is forty-seven, while the largest "unit" in each group contains on the average only seven coins. If only dies and not hub-connexions are taken into account, the figures would, of course, be less favourable. The objective criterion we hoped for does not therefore carry us as far as the author believes. For instance, he says of the group G ii (p. 74) that its "issues have been classified independently by hub and die sequences". The figures for this group have been given above, and show that the test of die and hub sequence will not prevent any one of its twenty-three "units" being transferred to another group or arranged in any order relative to each other, while the most it can certify is that fourteen out of the seventy-four coins must hang together. Our judgement of the compactness of each group and of the sequence of coins within it must still depend not on die sequence primarily, but on the subjective appreciation of style and similar considerations. While, with this *caveat*, the general arrangement of the tetradrachms may be accepted in outline, the data available do not seem to us to admit of their nice distribution over the various shorter periods of time proposed. The groups are in fact anything but compact, and it seems unlikely that the average number of anvil dies used yearly should remain constant about the figure three from the accession of Pisistratus down to Marathon, irrespective of the demands of war or peace, the period of the tyrant's exile, or the loss of the Strymonian mines. Mr. Seltman, expanding a theory of Svoronos, suggests that Pisistratus issued his first owl tetradrachms from an "imperial" mint at Laurium, which henceforth became the

principal mint of Attica, and that he permitted the "civic" mint in Athens (which would have functioned continuously till his second return from exile) to carry on the issue of didrachms of the *Wappenmünzen* series. Apart from the possibility of a mint at Laurium, for which we can only say that there does not appear to us to be any solid evidence, at this time or later, the general probabilities of the case seem against such a view; it is conceivable, however, that the old coinage was re-introduced on the retirement of Pisistratus into exile.

For some time after his accession to power his position was precarious, and he was forced about 556 to leave the country for several years, when he chose the Strymonian district as his retreat, a region rich in mines and other resources. One of the most valuable things in the book is the identification of the money issued by him in these Northern parts. There is a series of tetradrachms largely known to us from a find made on the Acropolis among the debris of the Persian invasion, which is characterized by the extreme crudity of its style. The art indeed displayed is such that the coins have been regarded alternatively as the earliest of all the tetradrachms or as imitations struck by the Persians during their occupation of Attica. Mr. Seltman draws attention to the hitherto unnoticed circumstance that in most of these coins the Θ of the legend takes a curious form. In fact it becomes a point surrounded by a circle of dots, a (solar?) symbol characteristic of the issues of the Paeonian district and as such appearing, for example, on the bull didrachms referred to above. Similarly on the rare drachms the crane symbol of the Bisaltae replaces the olive spray. We cannot escape the inference that the tetradrachms were struck for Pisistratus by local craftsmen, an inference which is supported by their peculiar style. Though the existence of a mint on the Strymon seems certain, we cannot regard as likely the confident theory advanced of two mints working for many years simultaneously in Attica, at Laurium and in the city. The germ of the theory is contained in the supposition referred to above that Pisistratus began his coinage at the silver mines near his home, and the only tangible support is found in the special workmanship of some five issues of Hippias. But as has been indicated, the groups here assigned to different mints are by no means so compact nor is the dating of their constituent units so certain as the casual reader might think; in the absence of definite evidence, judgement must be given on

general considerations. Fashions in fabric and fluctuations in style do not necessitate the hypothesis of separate mints to explain them. Are we to suppose, for example, that the early fifth-century didrachms of Ialyssus (*B. M. C. Caria*, Pl. XXV, Nos. 1-2 on the one side, and No. 3 on the other), which show just such differences of workmanship as the Attic coins under consideration, are not a product of a single mint? The same arguments apply to a later attempt to segregate a small group of tetradrachms and assign it to the cleruchs settled in Euboea in 506 B. c. We must first ask whether it is likely that the cleruchs would have been allowed to install a mint of their own for the production not of small change merely, but of standard currency, and whether such pieces, if struck, are likely to be distinguishable by style from the ordinary Attic coins in the absence of any difference in type or legend. If the answer to both these questions is in the negative, we should require a more than usually convincing demonstration that the coins in question were in fact so issued. The group is not connected by die sequence (it contains seven coins in six "units" of which five are single coins). One of them (Pl. XXII, A 326-P 412) has every appearance of being merely a barbarous imitation, and the rest can be fitted into the general series without doing it any violence. The argument adduced from the shape of the E with sloping bars does not hold water. Sixteen coins of group L, of which these coins are said to be copies, show the E clearly, and on eleven of them it also has sloping bars.

On the establishment of the Pisistratid tyranny the Alcmaeonids made their headquarters at Delphi, where they obtained the contract for the rebuilding of the temple to which all Greece had subscribed. They do not seem to have been over-scrupulous in the immediate use made of the resources placed at their disposal, and there is no doubt that they were thus enabled to bring about the fall of the Pisistratids and their own return to Athens. Mr. Seltman credits them on this occasion with the issue in electrum of the little pieces sometimes found in Attica with the owl (D for Delphi on the reverse), the bull's head, the wheel and the human leg, and in silver, diobols also with the leg, and the enigmatic "dindrachms" with triskeles and Φ for Phocis, tentatively assigned before to Phlius. The triskeles, and with it the single leg, have already been connected with the Alcmaeonids. The use of electrum he explains by the great quantity of that metal which the offerings of Asia

Minor had brought to Delphi: the otherwise irrational weight of the silver "didrachms" by the assumption that it represents a half of the chief electrum piece at the current ratio of the two metals, 10 : 1. Certain objections present themselves: Why Φ as well as D ? Why the lack of homogeneity in fabric among the electrum coins themselves, and between them and the silver, in an issue which we should expect to be specially homogeneous. One particularly has a letter (if it be a letter) in the reverse punch, and the incuses of the large silver pieces resemble neither the contemporary electrum nor the previous *Wappenminzen*. On the contrary, the nearest parallel that suggests itself is in the archaic pieces assigned to Thaliadae in the Peloponnes (*Traité*, Pl. XXXVIII. 21). Nor does it help matters that there is an earlier electrum series of the same weight from Samos to which one of the wheel coins here cited from the British Museum⁴ certainly belongs, and which contains besides earlier coins with an owl type. The theory is however very ingenious and may be right, supported as it is by useful evidence of provenance.

Another example of the author's extreme ingenuity appears in his treatment of the decadrachms. He will not allow that these are in any sense commemorative of either of the great victories over the Persians. He links them on stylistic grounds with the rare didrachm issue, dates them to the years 486-484 B. C., and explains them as struck to facilitate the distribution of the surplus profits of the silver mines which Herodotus tells us were shared out at the rate of ten drachmas a head till Themistocles persuaded the people to devote the money to shipbuilding. For all its ingenuousness, the conjecture strikes us as unhappy. Apart from the conflict between Herodotus and Aristotle as to the amount and details of the distribution, the uniqueness of the decadrachm in the Athenian series, the parallelism of the contemporary Demareteia and the later decadrachm coinage of Alexander the Great, both undoubtedly commemorative, and, above all, the intangible but most obstinate argument from general probabilities, all bear on the other side. Why should the fact that in the years after Salamis the Athenians were "busy rebuilding their city and its fortifications" make it "improbable that they would have time to think of commemorative medallic coinages"? It is hazardous, too, on

⁴ *B. M. C. Central Greece*, p. 106, No. 4 = *B. M. C. Ionia*, p. 14, No. 68.

grounds of style alone to deny the possibility of coins being struck five years later than the date actually assigned to them. But another difficulty must be met. On the figures given, 150 talents of silver will have been coined in three years for distribution in decadadrachms and didrachms. Assuming that the denominations were coined in approximately the same proportions as they have come down to us (i.e. 1 : 3), 900,000 drachms weight of silver would have been coined into 168,750 didrachms and 56,250 decadadrachms. Where are these coins? Twenty-nine specimens, only, of the former and nine of the latter are here recorded—another decadadrachm exists in a private collection. Compare this with the Demareteion issue of which Diodorus gives us a detailed and probably correct account. The Demareteia were coined from the proceeds in silver of a gold crown weighing 100 talents presented by the Carthaginians to Demarate. Take the most favourable view that all this silver was used for the decadadrachms and none for the tetradrachms of the same issue. Then, if we accept Mr. Seltman's own account (on p. 114) of the talent used in Diodorus' reckoning, the total issue would have consisted of fewer than 266 decadadrachms; if we prefer Sir Arthur Evans' view of the talent,⁵ of 3,120 decadadrachms. The number of surviving Demareteia is a round dozen. Any argument based on the number of extant coins of an issue should be used with the greatest caution, but the discrepancy is so gross that we may well doubt premisses leading to such a conclusion as that, though there are fewer Attic decadadrachms than Demareteia extant, nearly twenty times (or on Mr. Seltman's own figures over two hundred times) as many were struck.

The second Persian invasion closes the period covered in the book. But there is a subsidiary group put together here for the first time, and assigned to the Philaid tyrants of the Thracian Chersonese, which overlaps the following years. The coins in question are (1) the Attic tetradrachms, thirds and sixths with facing quadriga and horseman types usually given to Olynthus, (2) unassigned didrachms and hemidrachms of uncertain standard (177–198 grammes) with the type of a horseman carrying two spears and the lozenge-shaped incuse characteristic of later Chersonesian coins, (3) the undoubtedly Chersonesian tetradrachms bearing the Milesian lion and the head of Athena, with corresponding sixths and twelfths. This is a very interesting attribution and

⁵ *Num. Chron.*, 1894, pp. 189 ff.

requires careful consideration, but like many other suggestions in the book, while not denying its possibility, we cannot regard it as adequately made out. The certain coins of the Chersonese must be the point of departure; i.e. the third group above and the later "tetrobols" with the fore-part of the Milesian lion and lozenge incuse. Except in weight standard and divisional system (which however Professor Gardner has shown reason to think originated in Chalcidice) there is no direct point of contact between them and the first group. True, the types would be appropriate to the name of Miltiades if the attribution had already been made out, but the application is too general to form the basis of an independent argument. That the facing quadriga and horseman resemble figures on Attic vases need not imply more than that the coin engravers were familiar with the vases and liked them, if it implies so much. The rider with chlamys and petasus appearing as a shield charge on an Attic vase, who is cited in support, bears no resemblance to the naked horseman with his two spears on the coin, and in any case the argument from shield charges seems highly problematic. Further, there are two other tetradrachms with the quadriga in profile which are generally associated by other numismatists with the group under discussion. Their reverses (simple incuse square and the same containing a bird) point more definitely to Chalcidice, and there is no less ground for joining them to the coins with the facing types than those sixths with the horseman here selected which also show the type in profile. In fact the only connexion between groups (1) and (3) is an indirect one through group (2). These coins have the lozenge-shaped incuse of the Chersonese, and the latest shows in its two compartments the Milesian lion and a lion's head as on the later tetrobols. The attribution is therefore likely to be geographically correct. The obverse type is that of the horseman in profile just referred to, and only so far is the first group linked to definite Chersonesian issues.

Interesting metrological questions arise in the course of the work which there is hardly room to touch upon here. It seems clear from the "tables of frequency" yielded by the material gathered together that the standard of the *Wappenmünzen* is not so markedly below that of the later tetradrachms as had previously been supposed by some writers: the "normal" didrachm weighs 8.50 grammes as compared with a normal 17.15 to 17.20 grammes of the later tetradrachm. Further, the slight increase in standard does

not appear to have been made till after the first coinage of Pisistratus, though we hardly have enough coins to be certain of this. Mr. Seltman follows Professor P. Gardner in the view that the "Euboic" standard spread to Corinth and Athens from Cyrene, whose merchants had introduced it from Egypt. Whatever its ultimate origin, the dates will not allow this means of transmission. The initiation of the Corinthian coinage stands to the credit of Cypselus. In c. 630 B.C., the traditional date of the foundation of Cyrene, his power is generally held to have been already firmly established, and even if we advance his date, as perhaps we should, there is no reason to place the earliest issues at Cyrene before c. 570 B.C., when fresh reinforcements turned the place from a struggling colony to a flourishing centre of wealth. Its first coins are therefore later than those of Athens as well as of Corinth. In a later chapter, attempts are made to connect the prehistoric copper talent with the gold talent and thus with the Euboic standard, and to derive the Aeginetic standard from the primitive iron "spit" currency of the Peloponnese. The author again shows all his accustomed ingenuity, but the material evidence is so scanty and our knowledge of the relative values of the metals so incomplete that the results can only be regarded as highly uncertain.

E. S. G. R.

Les Monnaies Françaises. By ADOLPHE DIEUDONNÉ. Collection Payot (Paris, 5 francs). 142 pages, 50 illustrations, and Bibliography and Index.

To reduce to the small compass of this little volume of the Collection Payot the history of the coinage of France from ancient times to the present day is a task which, formidable in itself, seems even more formidable when one has read Monsieur Dieudonné's work and appreciated the amount of information which it contains. The author is not content to supply the public with a dull record of the coinage, but he bears in mind his alternative title, "L'Histoire de France par les Monnaies", and presents a most readable little narrative in which he holds a careful balance between history and numismatics.

The public generally are well served by the care which the author has taken to emphasize the different points of interest in the study of the coinage of different periods.

Thus, in the Gallic and Roman periods the identification of the place of origin, in the Merovingian series the nomenclature, in the Carolingian series the identification of sovereigns is the chief point of study. The brief description of the coinage of Metz is a clear and concise illustration of the interest and difficulty of the classification of Carolingian coins. The causes and effect of the frequent changes of weight and standard are, within the short space available, well explained, and also the effect of the mechanical improvements of the sixteenth century with the contemporaneous introduction of portraiture.

On page 57 the institution of *monéage* in Normandy should surely be assigned to the eleventh century and not the twelfth (Engel and Serrure, *Moyen Âge*, vol. ii, p. 381, have the same error); as Lecointre-Dupont pointed out, it must have immediately preceded the Council of Lillebonne of 1080.

G. C. B.

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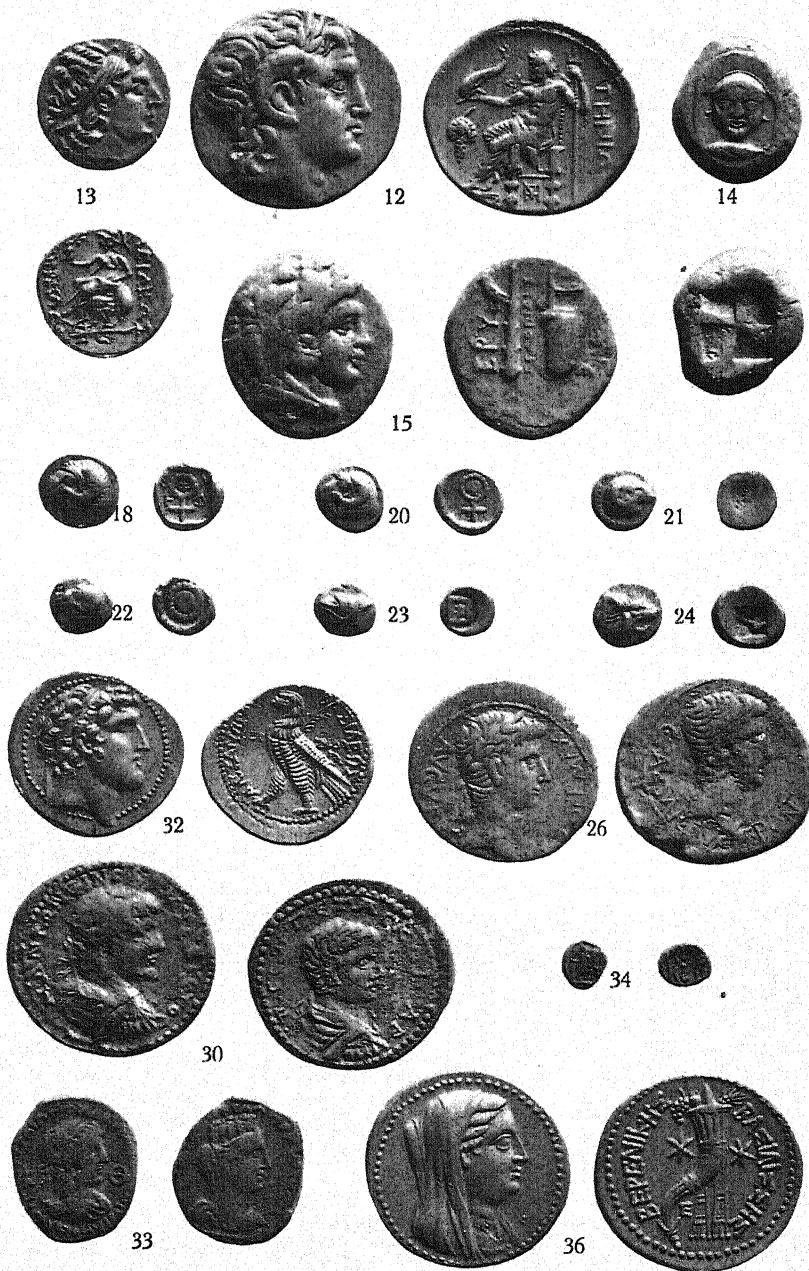
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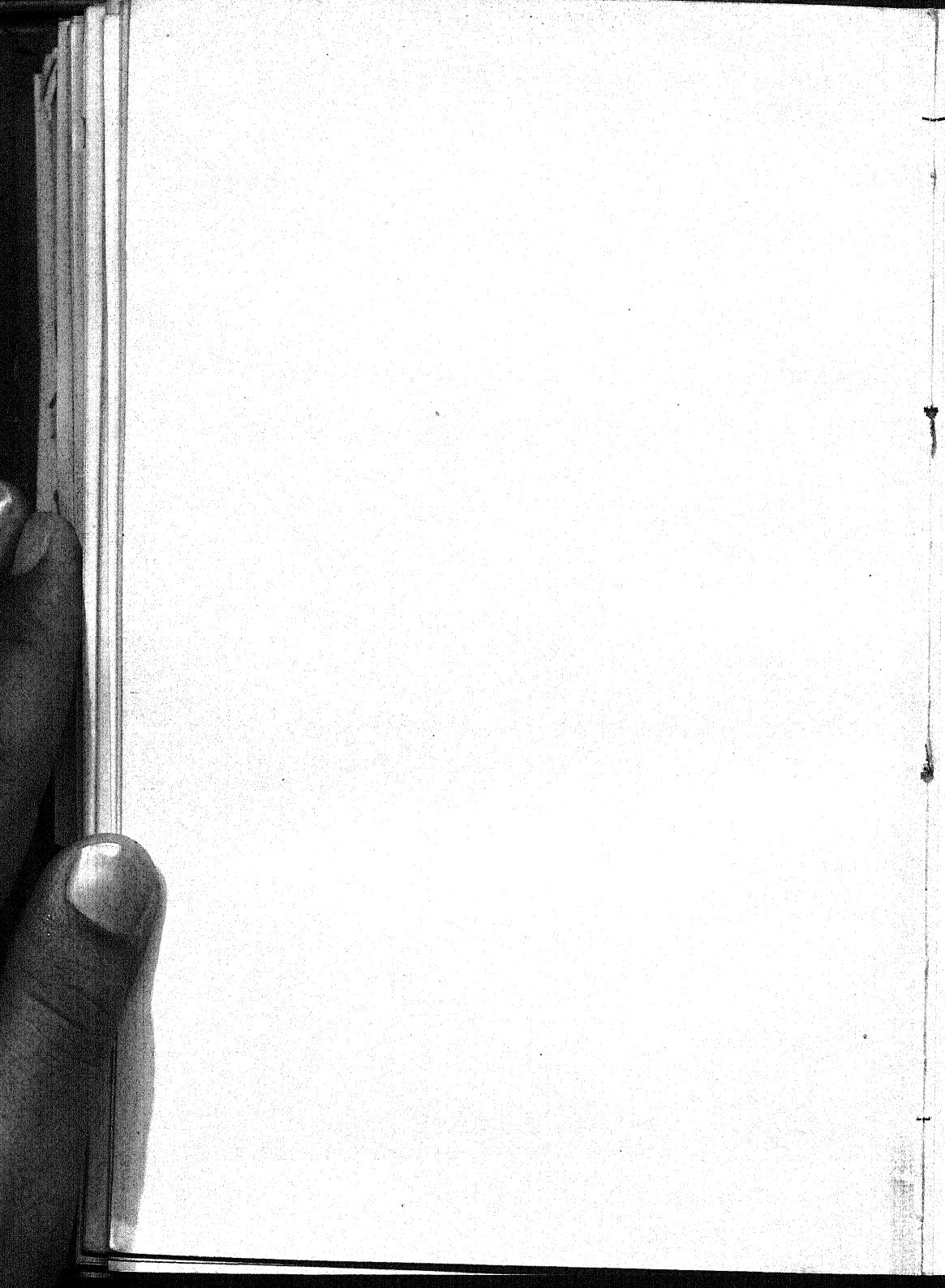


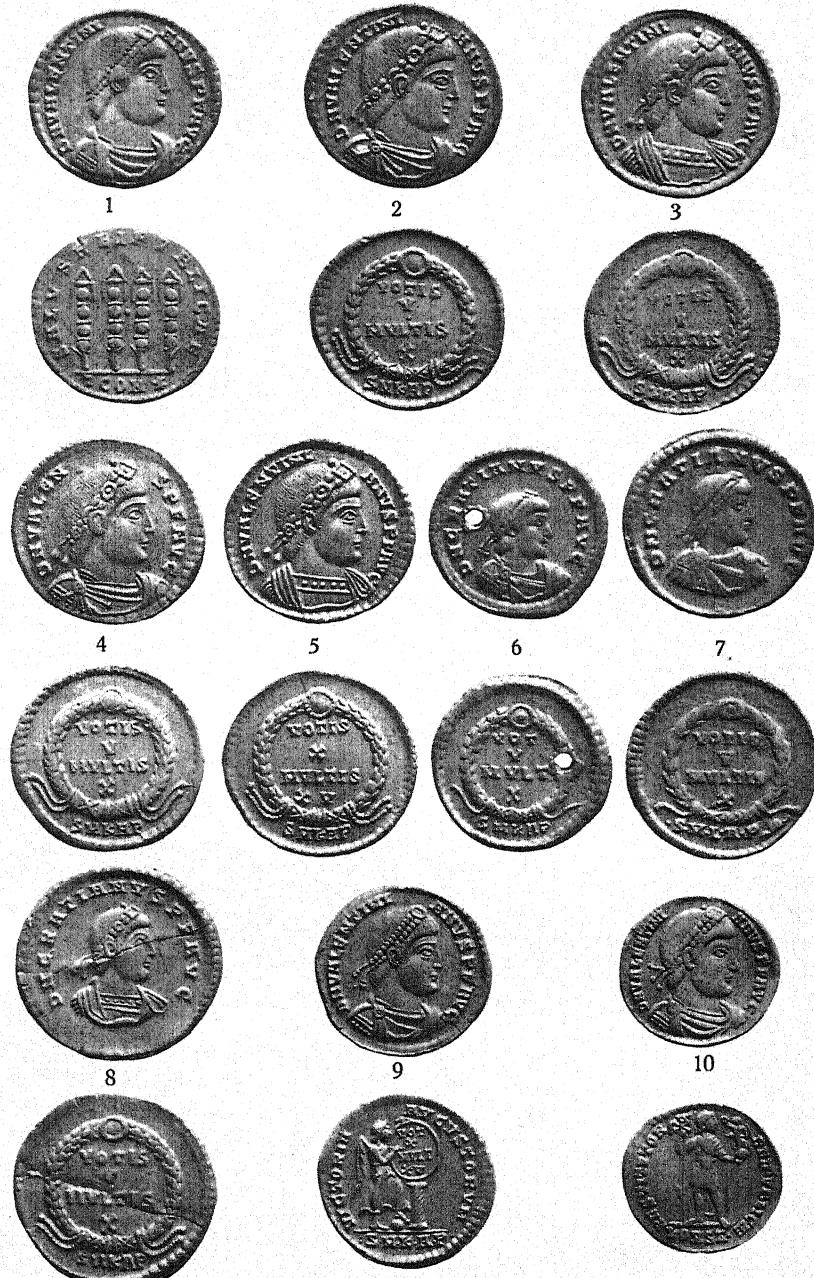
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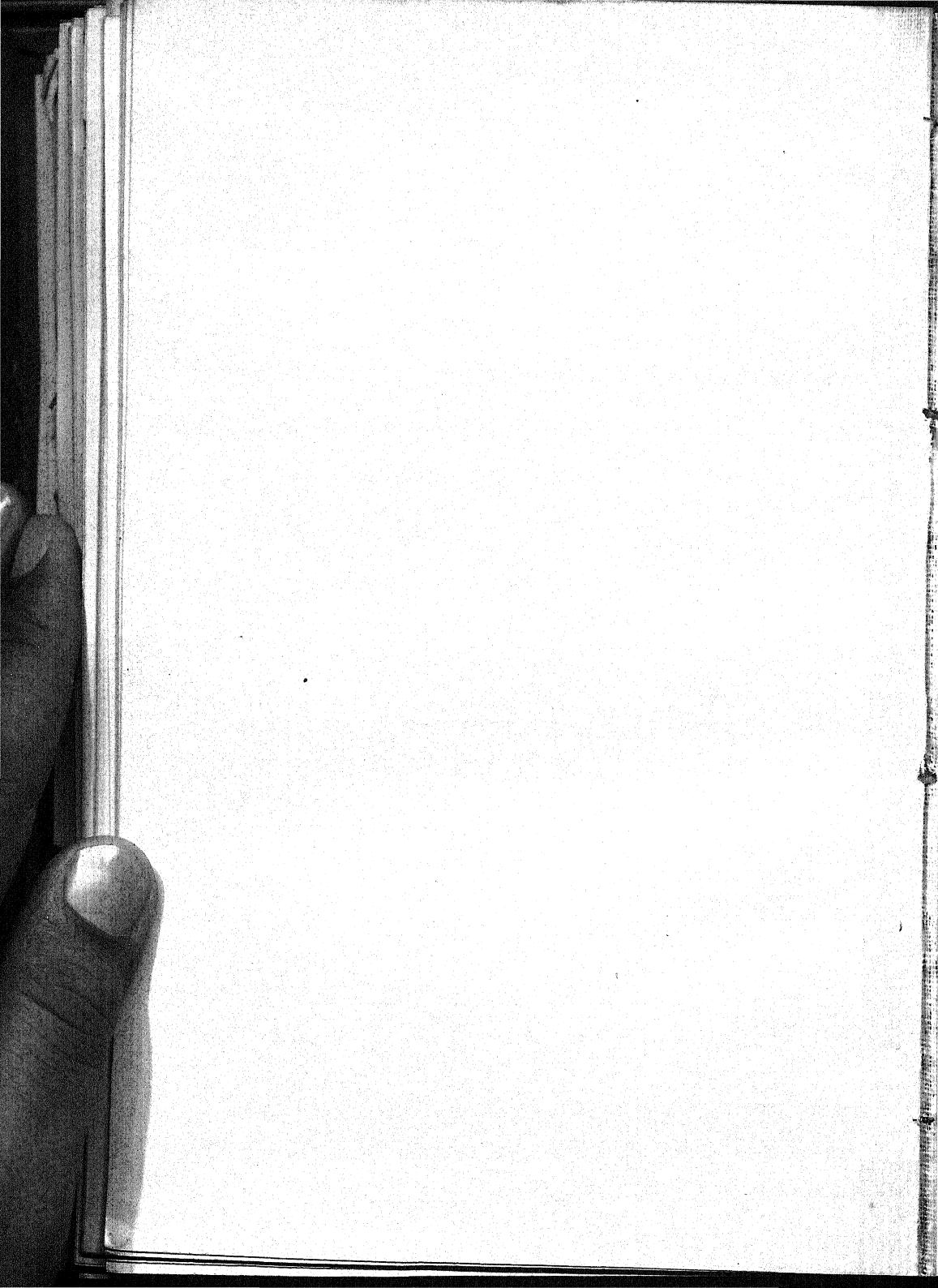


LEGIONARY COINS.





SOME LATE ROMAN MINTS.





SOME LATE ROMAN MINTS.









1



2



3



4



5



6



7



8



9







10



11



12 AE



13



14



15



16



17



18 AE



19 AE



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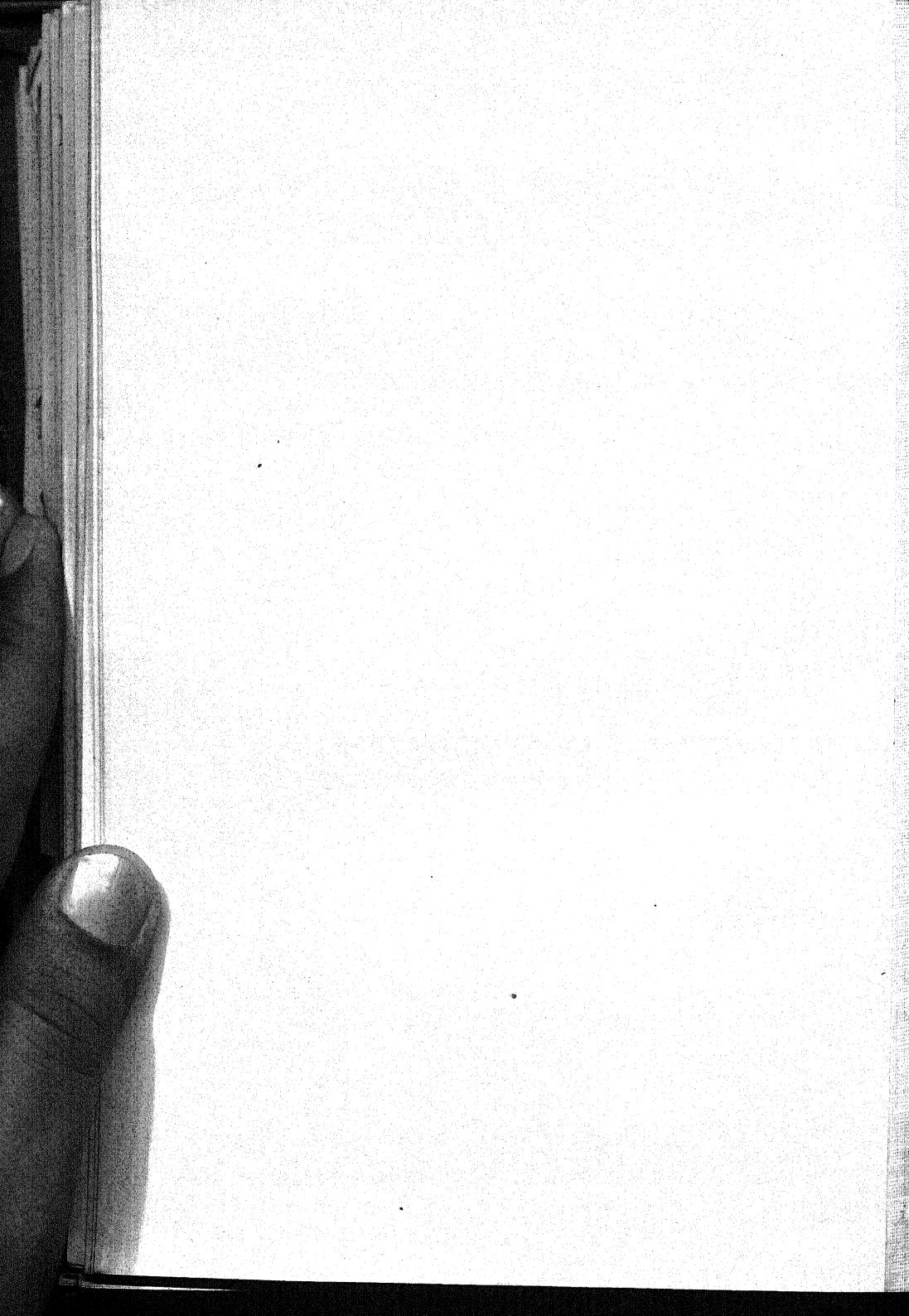


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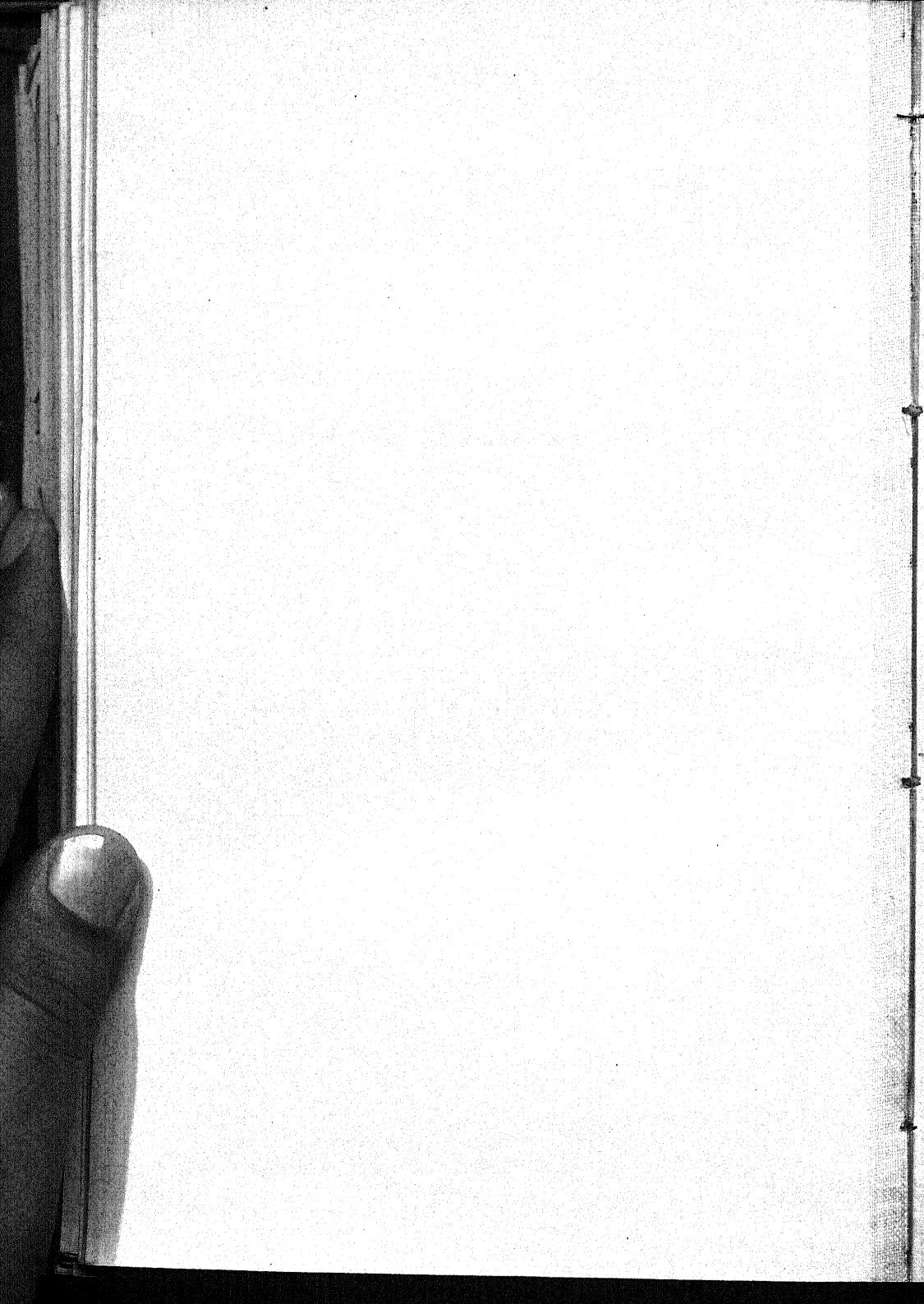


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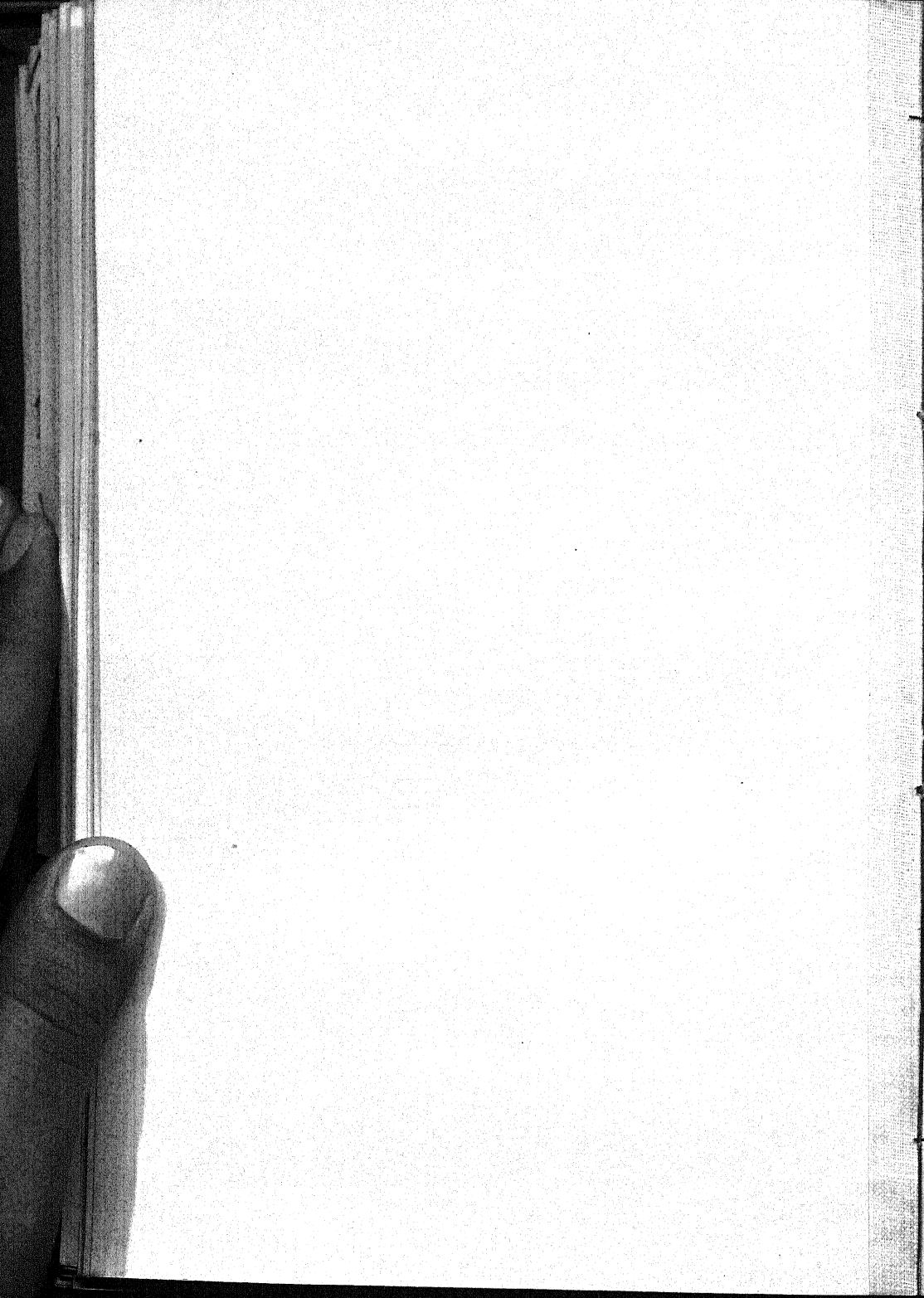


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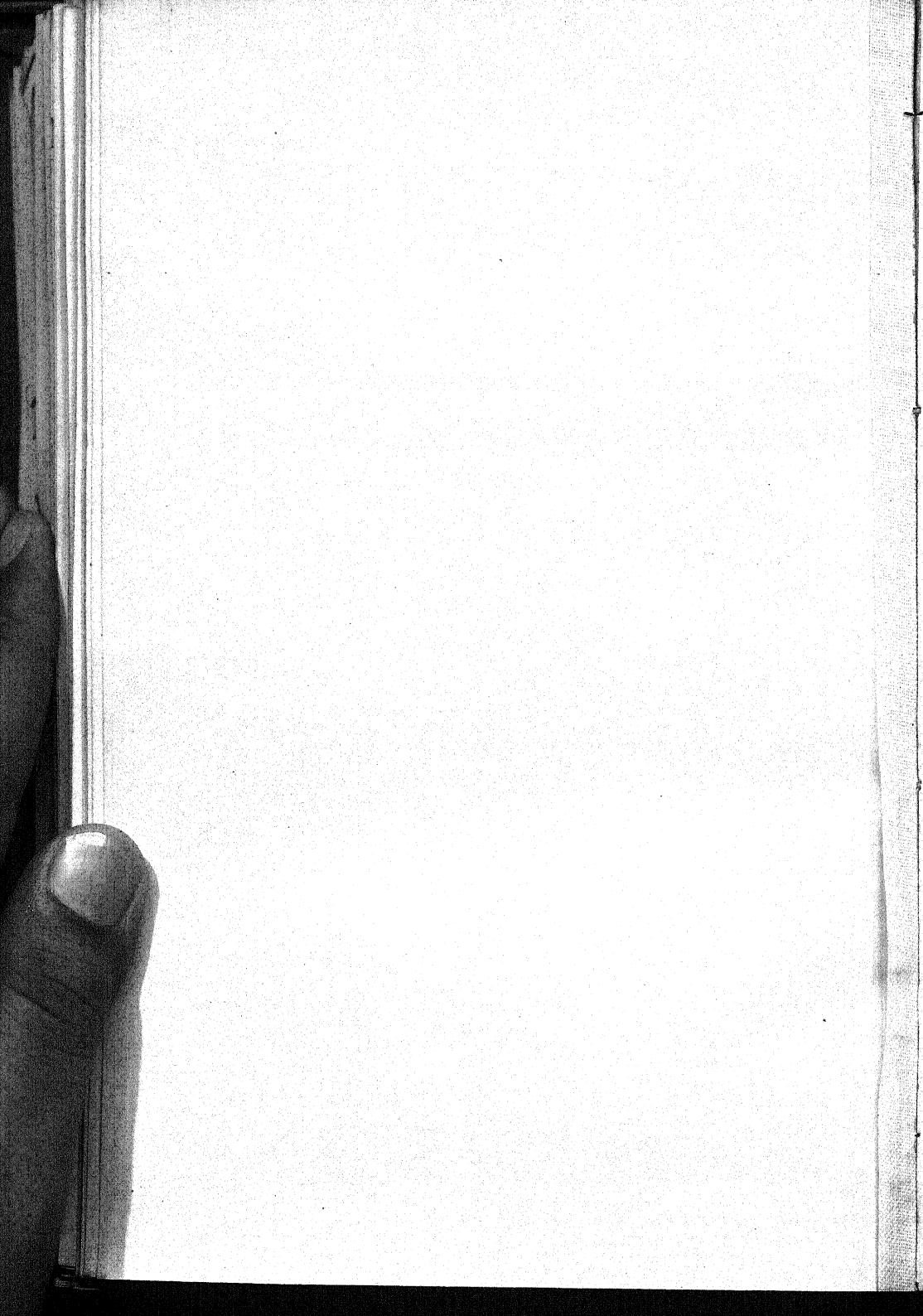


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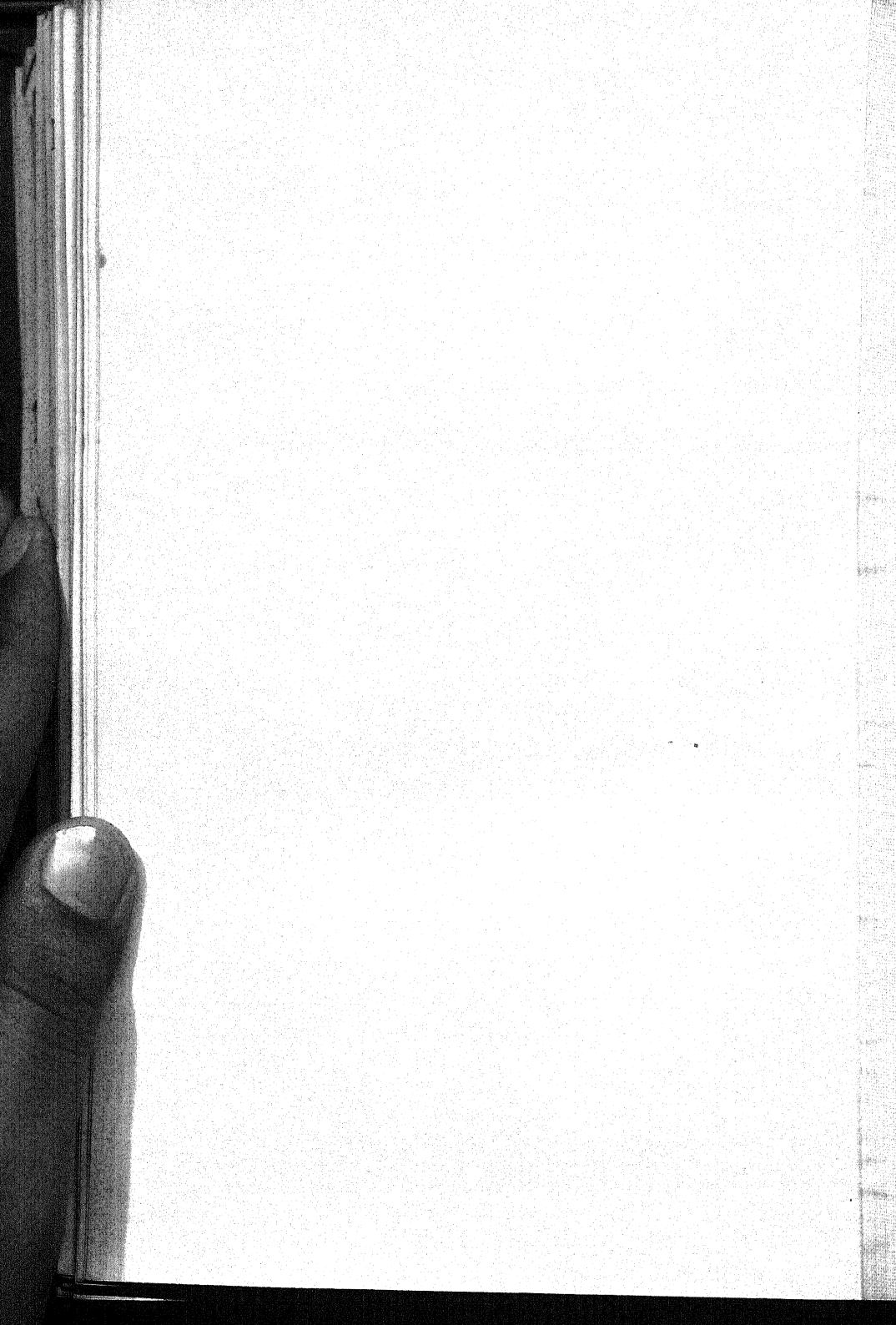


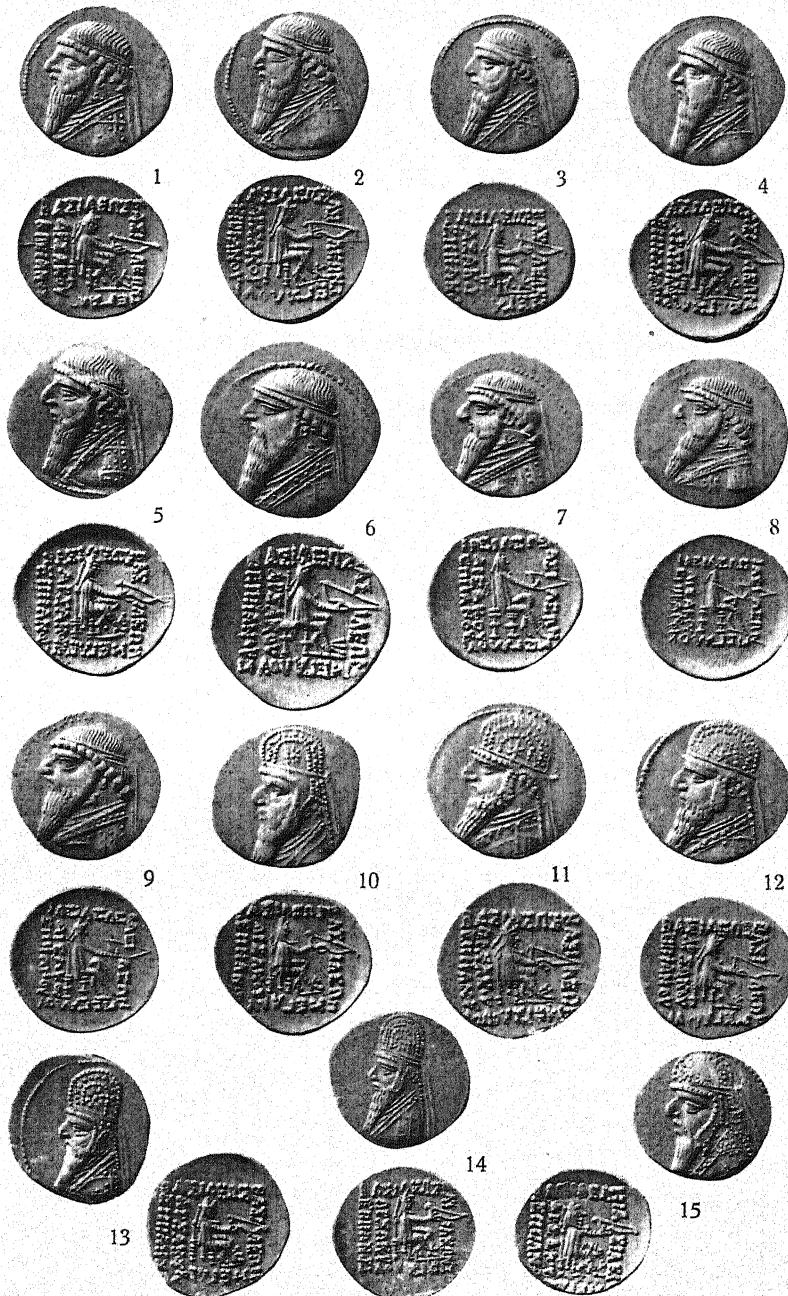
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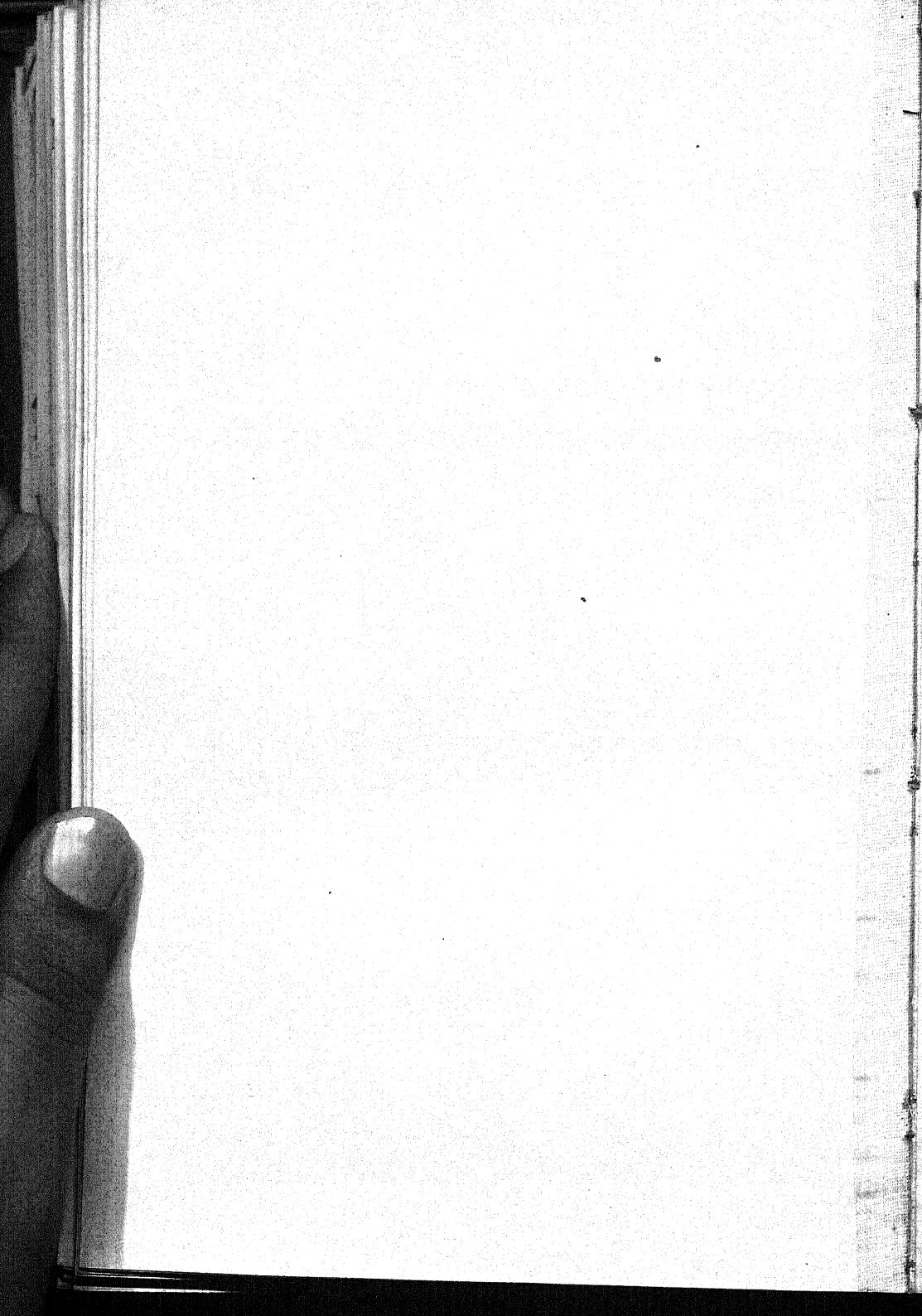


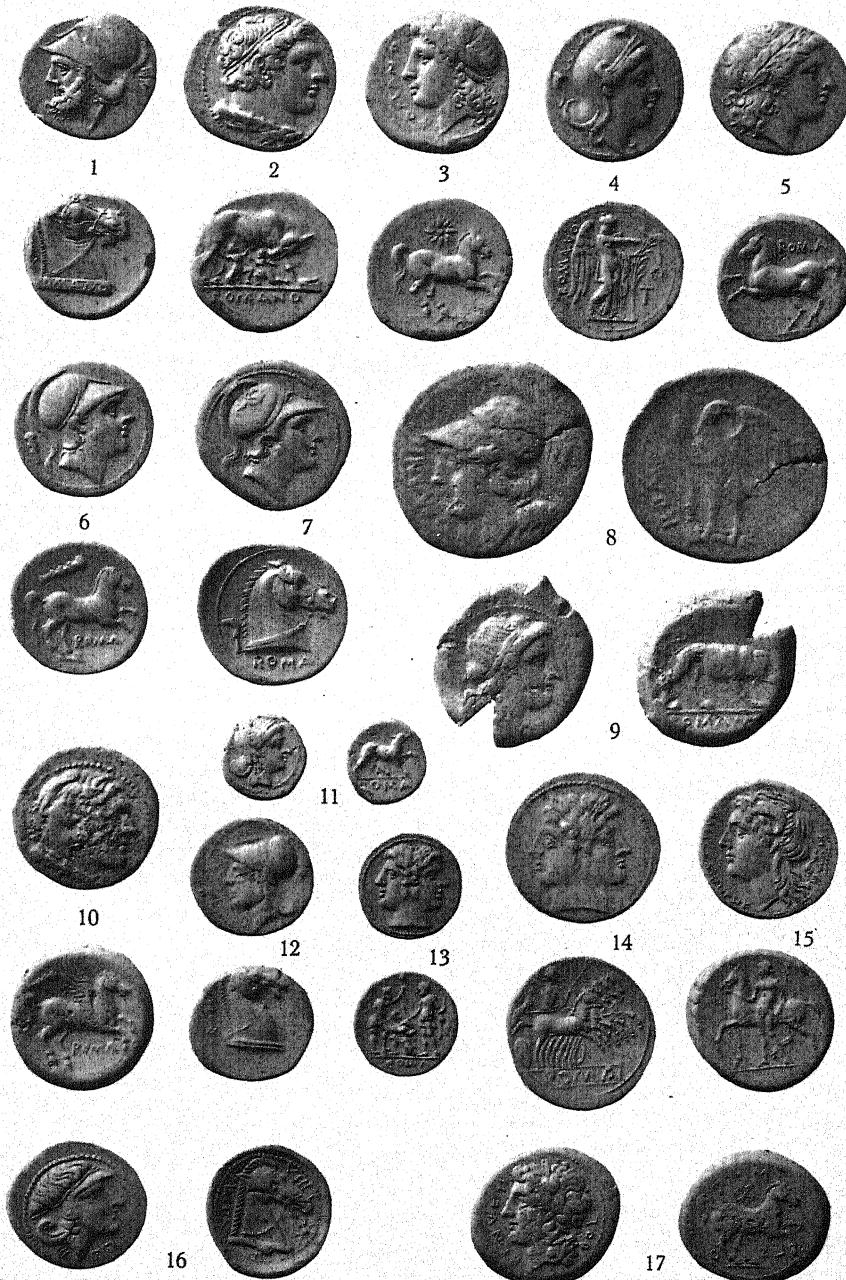
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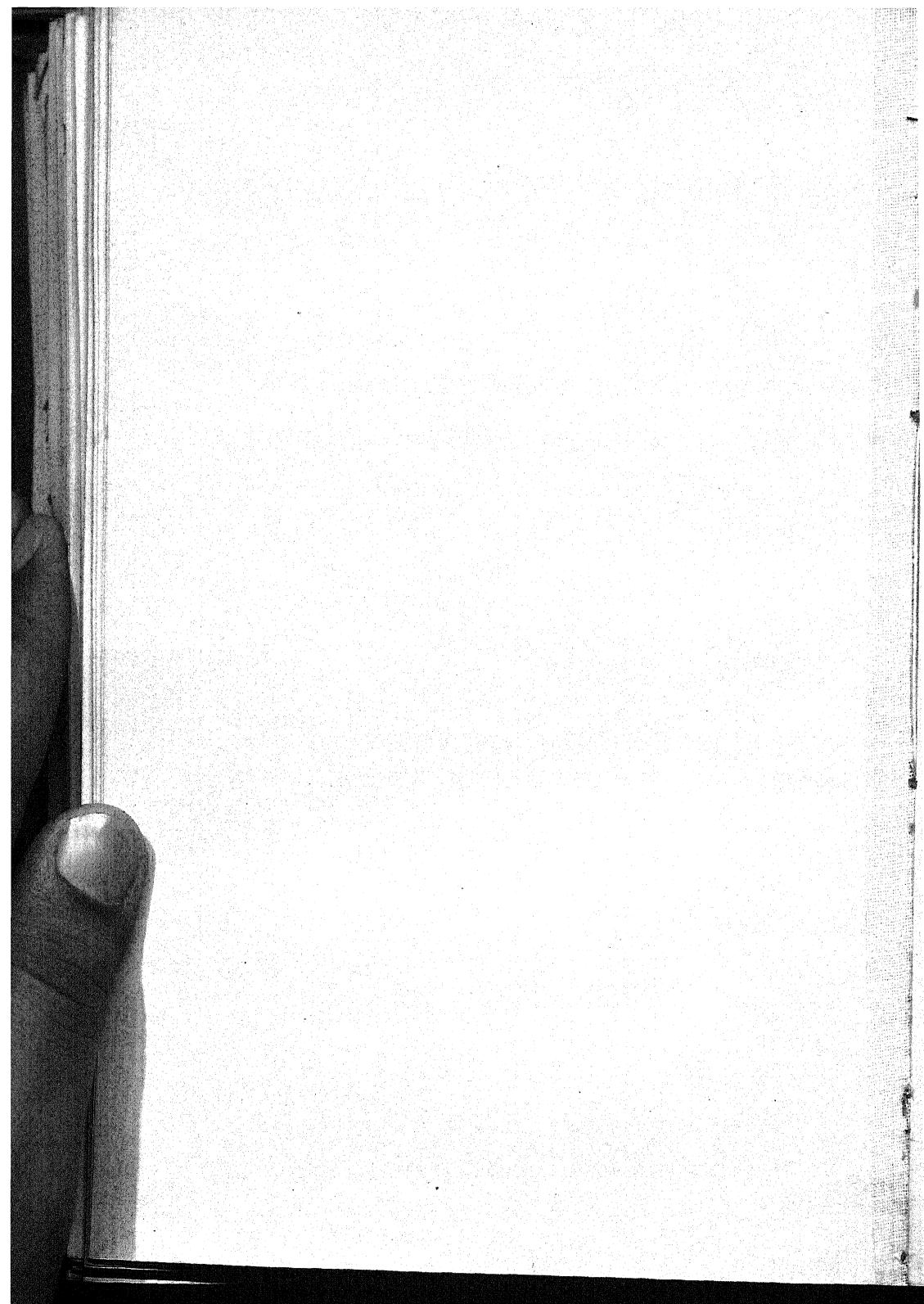


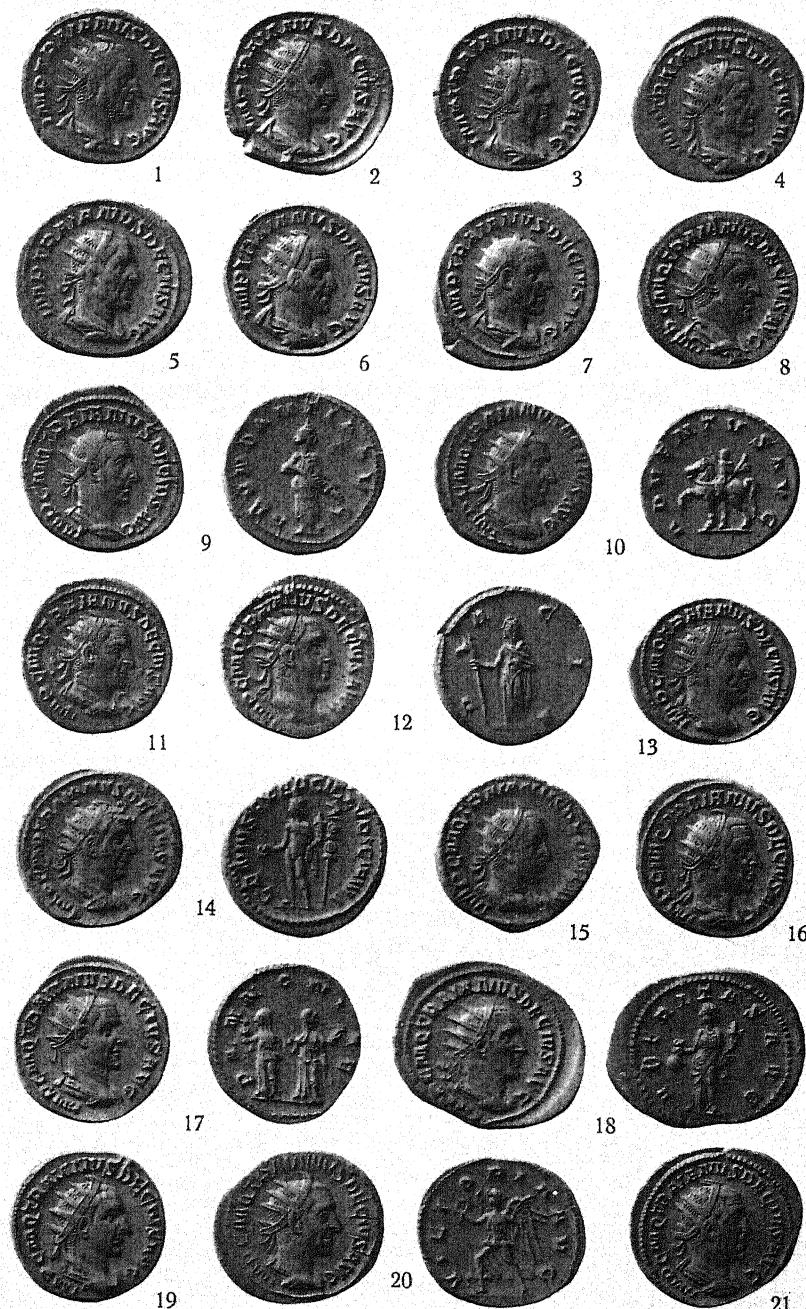


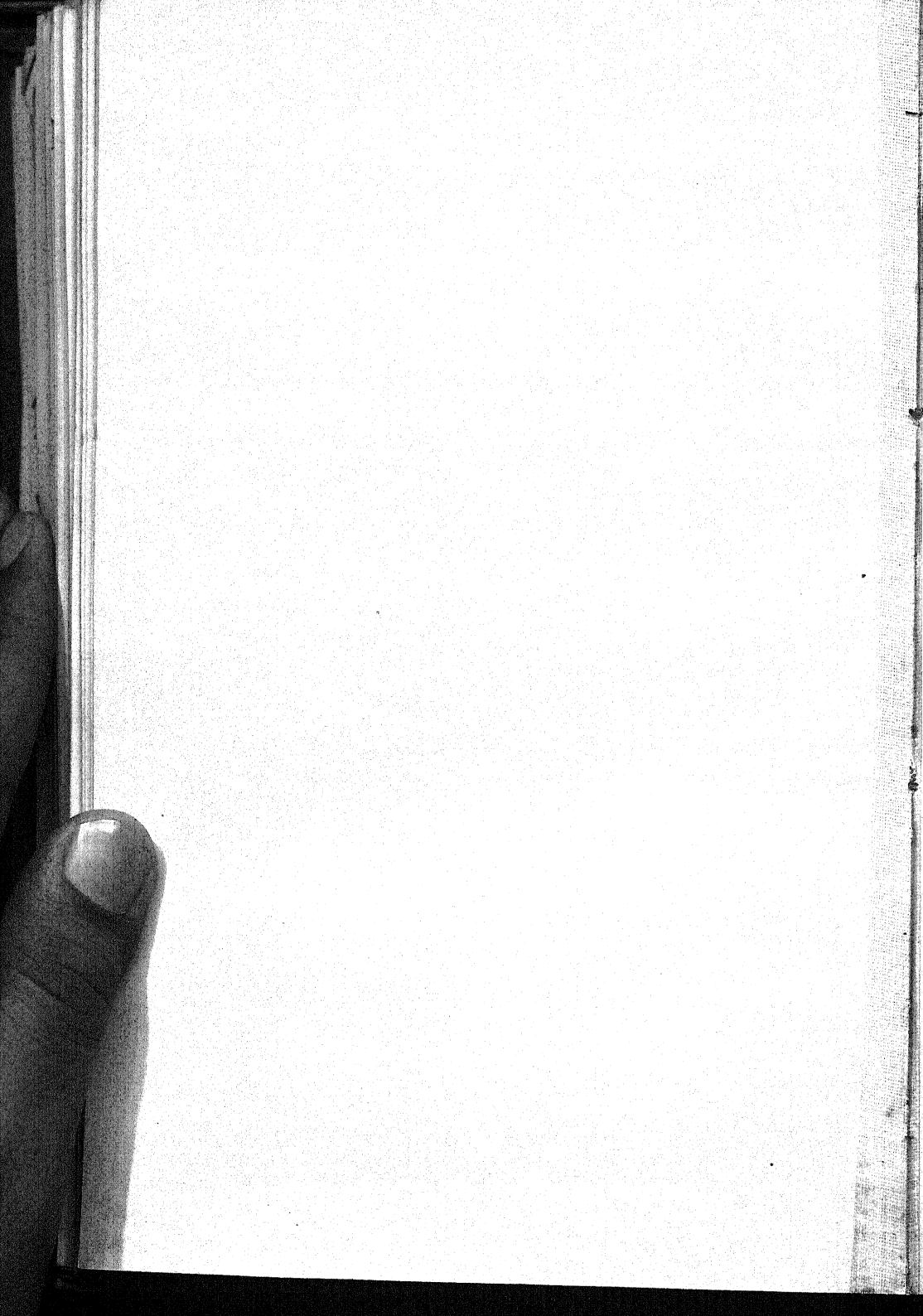
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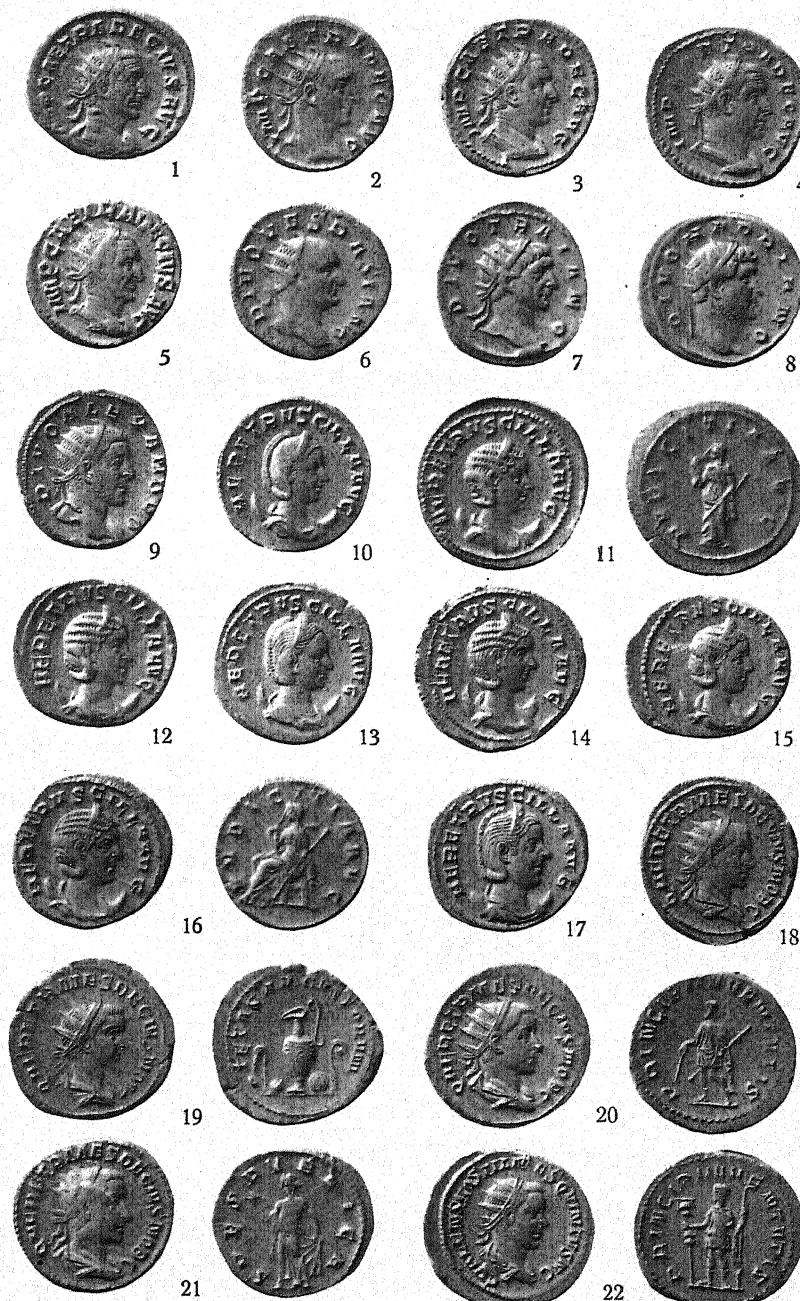


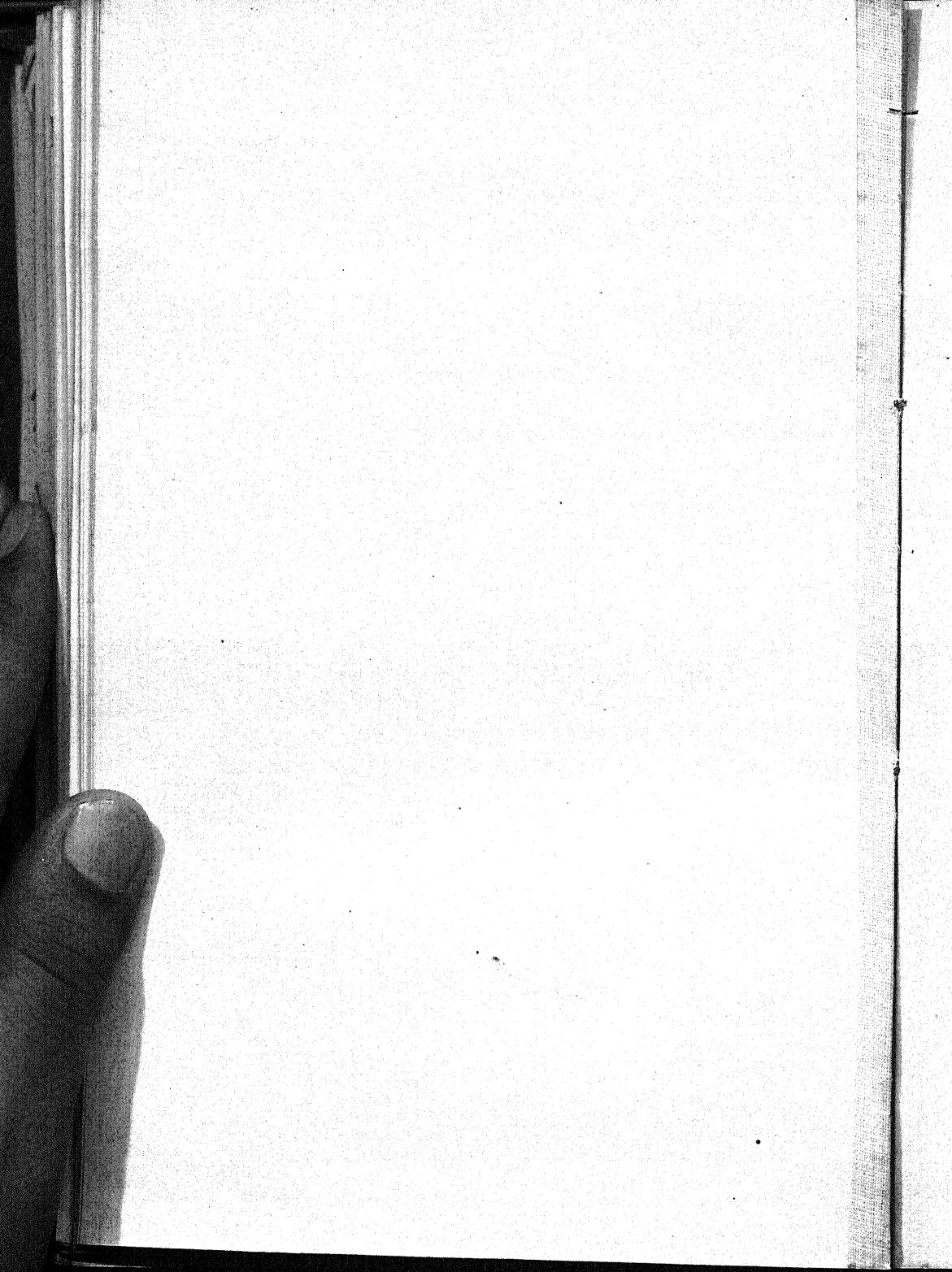


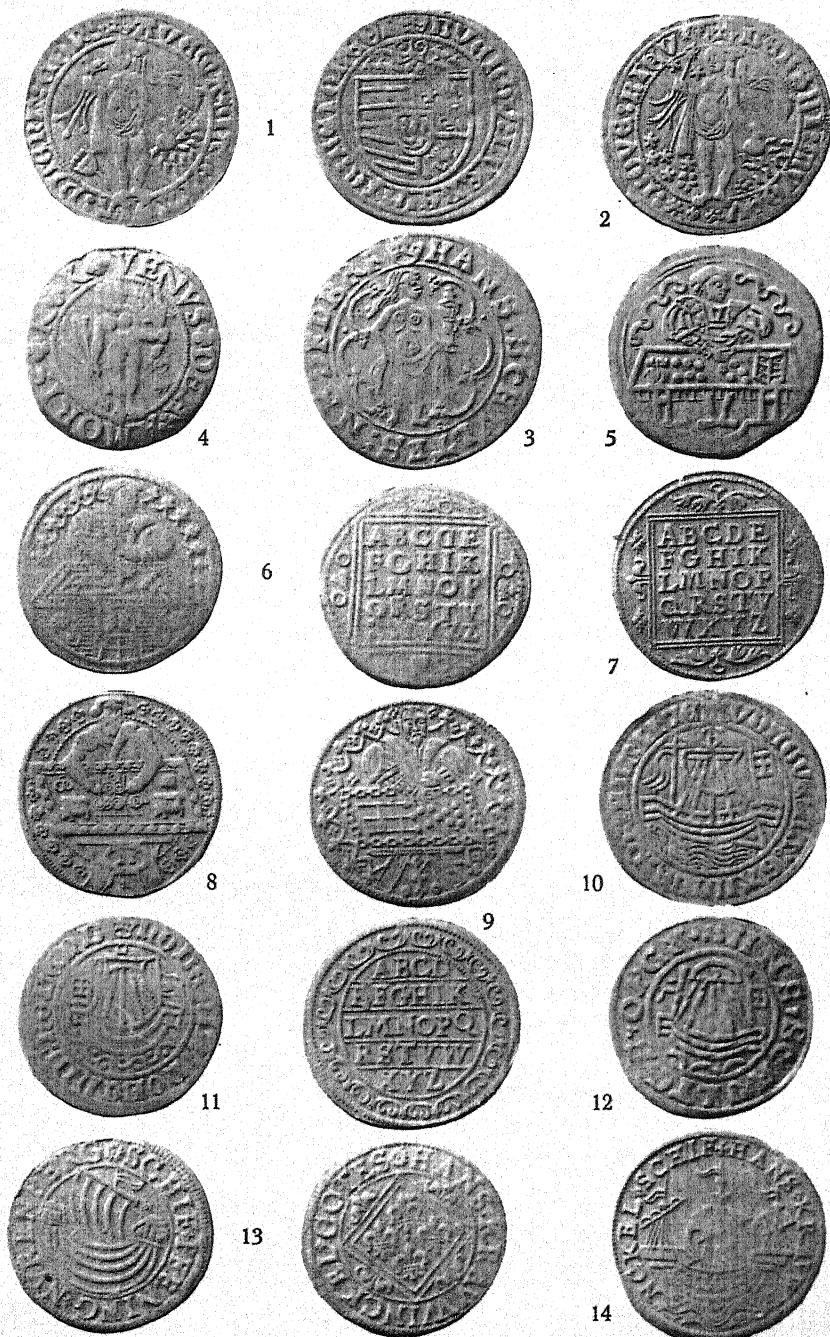




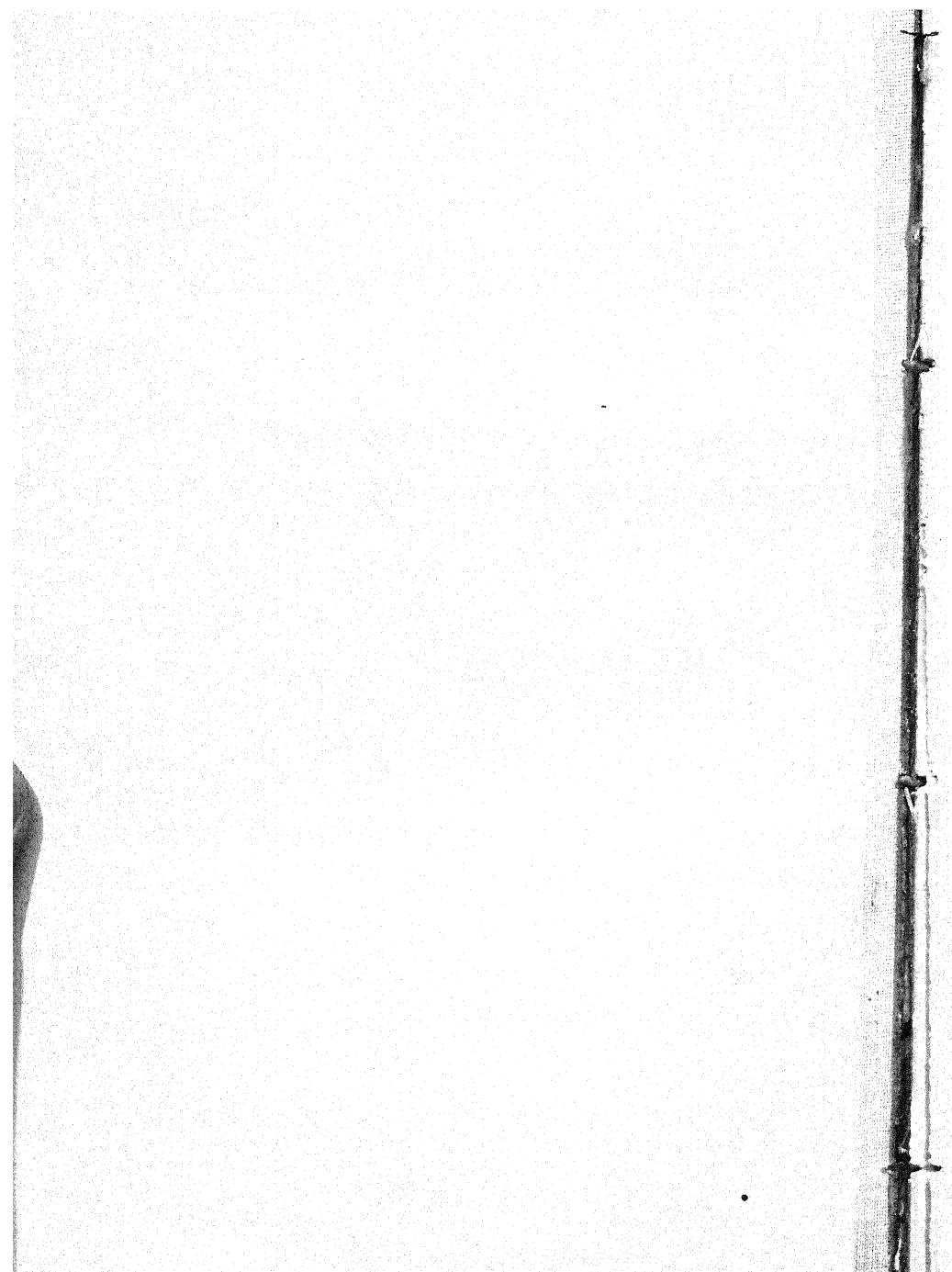








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ELECTED

1883 CHARLES ROACH SMITH, Esq., F.S.A.
1884 AQUILLA SMITH, Esq., M.D., M.R.I.A.
1885 EDWARD THOMAS, Esq., F.R.S.
1886 MAJOR GENERAL ALEXANDER CUNNINGHAM, C.S.I., C.I.E.
1887 JOHN EVANS, Esq., D.C.L., LL.D., F.R.S., P.S.A.
1888 DR. F. IMHOOF-BLUMER, Winterthur.
1889 PROFESSOR PERCY GARDNER, Litt.D., F.S.A.
1890 MONSIEUR J. P. SIX, Amsterdam.
1891 DR. C. LUDWIG MÜLLER, Copenhagen.
1892 PROFESSOR R. STUART POOLE, LL.D.
1893 M. W. H. WADDINGTON, Sénateur, Membre de l'Institut, Paris.
1894 CHARLES FRANCIS KEARY, Esq., M.A., F.S.A.
1895 PROFESSOR DR. THEODOR MOMMSEN, Berlin.
1896 FREDERIC W. MADDEN, Esq., M.R.A.S.
1897 DR. ALFRED VON SALLET, Berlin.
1898 THE REV. CANON W. GREENWELL, M.A., F.R.S., F.S.A.
1899 M. ERNEST BABELON, Membre de l'Institut, Paris.
1900 PROFESSOR STANLEY LANE-POOLE, M.A., Litt.D.
1901 S. E. BARON VLADIMIR VON TIESENHAUSEN, St. Petersburg.
1902 ARTHUR J. EVANS, Esq., M.A., F.R.S., F.S.A.
1903 M. GUSTAVE SCHLUMBERGER, Membre de l'Institut, Paris.
1904 HIS MAJESTY VICTOR EMMANUEL III, KING OF ITALY.
1905 SIR HERMANN WEBER, M.D.
1906 COMM. FRANCESCO GNOCCHI, Milan.
1907 BARCLAY V. HEAD, Esq., D.Litt., D.C.L., Ph.D., Corr. de l'Inst.
1908 PROFESSOR DR. HEINRICH DRESSEL, Berlin.
1909 HERBERT A. GRUEBER, Esq., F.S.A.
1910 DR. FRIEDRICH EDLER VON KENNER, Vienna.
1911 OLIVER CODRINGTON, Esq., M.D., M.R.A.S., F.S.A.
1912 GENERAL-LEUTNANT MAX VON BAHRFELDT, Hildesheim.
1913 GEORGE MACDONALD, Esq., M.A., LL.D.
1914 JEAN N. SVORONOS, Athiens.
1915 GEORGE FRANCIS HILL, Esq., M.A.
1916 M. THÉODORE REINACH, Membre de l'Institut, Paris.
1917 L. A. LAWRENCE, Esq., F.S.A.
1918 Not awarded.
1919 M. ADRIEN BLANCHET, Membre de l'Institut, Paris.
1920 H. B. EARLE-FOX, Esq., and J. S. SHIRLEY-FOX, Esq.
1921 PERCY H. WEBB, Esq.
1922 FREDERICK A. WALTERS, Esq., F.S.A.
1923 PROF. J. W. KUBITSCHEK, Vienna.
1924 HENRY SYMONDS, Esq., F.S.A.

PROCEEDINGS
OF THE
ROYAL NUMISMATIC SOCIETY.



PROCEEDINGS OF THE ROYAL NUMISMATIC SOCIETY.

SESSION 1923—1924.

OCTOBER 18, 1923.

PROF. SIR CHARLES OMAN, K.B.E., M.P., LL.D., F.S.A.,
F.B.A., President, in the Chair.

The Minutes of the Meeting of May 17 were read and approved.

The following Presents received since the May Meeting were announced, and thanks ordered to be sent to the donors :

1. American Journal of Archaeology, 1923, Pt. 2.
2. Antiquaries Journal, 1923, Pts. 3 and 4.
3. Bulletin de Correspondance Hellénique, 1922, Pts. VII–XII.
4. Bulletin de la Société des Antiquaires de l'Ouest, 1923, Pt. 1.
5. Coins from Oxyrhynchus, by J. Grafton Milne; *from the Author*.
6. Journal of Hellenic Studies, 1923, Pt. 1.
7. Journal of the Royal Society of Antiquaries of Ireland, 1923, Pt. 1.
8. Proceedings of the Cambridge Antiquarian Society, lxxii.
9. Revue Belge de Numismatique, 1923, Pts. 1–2.
10. Rivista Italiana di Numismatica, 1923, Pts. 1–2.
11. Supplement to Annual of British School at Athens, Pt. 1.

The following books were presented to the Library by the executors of the late Sir Henry Howorth, a former President of the Society, in memory of him.

British Museum Catalogue of Greek Coins. 27 vols.
British Museum Catalogue of Indian Coins. 6 vols.
British Museum Catalogue of Oriental Coins. 4 vols.
British Museum Catalogue of Persian Coins. 1 vol.
British Museum Catalogue of Roman Republican Coins. * 3 vols.
British Museum Catalogue of English Coins. 4 vols.
British Museum Handbook to English Coins.
Stevenson. Dictionary of Roman Coins.
Sale Catalogue of Montague Collection.
Sale Catalogue of Bunbury Collection.
Sale Catalogue of Ponton d'Amecourt Collection.
Engel & Serrure. *Traité de Numismatique du Moyen Age*
3 vols.
Forrer. *Keltische Numismatik*.
Blanchet. *Monnaies Gauloises*.
Blanchet. *Trésors de Monnaies Romaines*.
Blanchet. *Études Numismatiques*. Vol. ii.
Sambon. *Monnaies de l'Italie*. 2 vols.
Corolla Numismatica.
Catalogue of Coins in the Indian Museum. Vol. i.
Catalogue of Coins in the Lahore Museum. Vol. i (2 copies).
Reinach. *Trois Royaumes de l'Asie Mineure*.
Hill. *Handbook of Greek and Roman Coins*.
Boutkowski. *Dictionnaire Numismatique*.

Miss Agnes Elverson was proposed for election as a Fellow of the Society.

The President paid a tribute to the memory of the late Sir Henry Howorth, and emphasized the loss sustained by the Society and the world of learning in general by the death of so versatile a personality. (See *Numismatic Chronicle*, 1923, pp. 376-378.)

Mr. Fredk. A. Walters, F.S.A., showed an extremely rare heavy York groat of the annulet coinage of Henry VI with a lis on each side of the neck.

Mr. V. J. E. Ryan showed a Philip and Mary angel with beaded inner circle; a gold penny of Henry III; the unique half George noble of Henry VIII; a unique crown of Edward VI of the first issue: *obv. EDWARD 6*; crowned shield, with *ER* crowned; *rev. crowned rose, with ER crowned*; and a half-crown of the same issue and type, also with Edward's own name.

Mr. W. H. Valentine showed the Jersey penny and half-penny of 1923.

The President and Mr. Webb exhibited fine series of early Roman coins to illustrate Mr. Mattingly's paper.

Mr. William Gilbert exhibited a denarius of Clodius Macer from the Ramon collection. The President had remarked on the scarcity of these pieces in his paper on the coins commemorating the Roman legions (*Num. Chron.*, 1918, p. 80). Mr. Gilbert also exhibited an aureus from the Caruso collection struck by the Emperor Claudius in A.D. 46 to commemorate the victory over Britain.

Messrs. Spink & Sons sent for exhibition through Mr. Seaby:

1. A set of the hog-money—1s., 6d., and 3d.—of Somers Islands (Bermuda).
2. Two gold coins of Gallienus, one showing the Emperor with a wreath of reeds, and the other with *UBIQUE PAX*.
3. A series of Roman coins chosen for their beautiful condition or rare types, including coins commemorating the marriage of Marcus Aurelius and Faustina blessed by their parents.
4. A collection of silver badges of the Society of Gregorians, *circa* 1750.

Mr. Mattingly read a paper on "Roman Coinage of the Pyrrhic War". Starting with Suidas's note on Juno Moneta, he raised the question as to what coinage Rome used in the war against Pyrrhus, and examined the answers usually given. These were found to be unsatisfactory, and he proposed instead to assign to this period all the silver and copper commonly known as "Romano-Campanian", with

the exception of the gold of the oath-scene reverse, the quadrigati, and the heavy struck bronze with marks of value , and . . . The old arrangement of the Romano-Campanian didrachms in a long-drawn-out series, starting shortly after 340 B.C., is untenable, for the coins appear to be of one period but of different mints, not of one mint in different periods. Further, if we adopt the early date for this coinage, it is desperately difficult to explain why the denarius was not struck before 268 B.C. If we assign the coins to the Pyrrhic war these difficulties disappear. The coins were struck for the needs of the Roman armies at a number of South Italian mints, the types have reference partly to Rome, partly to allied communities in South Italy, partly to Carthage, in alliance with Rome against Pyrrhus in 279 B.C. This is the meaning of the appearance of definitely Carthaginian types, horse's head and free horse, on the reverse. Reduction of weight of the didrachm was due to the stress of the war, and took place at nearly the same time at Tarentum as well. The re-appearance of types of the series on coins of Coss, founded in 273 B.C., and Beneventum, founded in 268 B.C., as Roman colonies, is at once explicable. This new dating, if accepted, must have far-reaching consequences. We must admit the existence of the libral as, some series of which are indissolubly connected with the series of didrachms, as late as *circa* 270 B.C., and can now accept the statement of Pliny the Elder that the first formal reduction took place during the First Punic War.

The question of the policy of Rome in coinage in reference to her friends and subject-allies needed to be carefully considered.

NOVEMBER 15, 1923.

PERCY H. WEBB, Esq., M.B.E., Treasurer, in the Chair.

The Minutes of the Meeting of October 18 were read and approved.

The following Presents to the Society were announced, and thanks ordered to be sent to their donors:

1. American Journal of Archaeology, 1923, Pt. 3.
2. Bulletin de l'Académie Belge, 1923, Pts. 4-6.
3. Fifty-third Report of the Deputy-Master of the Royal Mint, 1922; *presented by the Deputy-Master*.
4. Suomen Museo, 1922, Vol. xxix.
5. Salomon Reinach: *Un homme à projets*; *from the Author*.

Miss Agnes Elverson was elected a Fellow of the Society, and the National Museum of Wales was proposed for election.

Mr. Percy H. Webb exhibited casts of some scarce Republican denarii from a recent find in Central France.

Mr. W. H. Valentine exhibited a set of the coinage of Czecko-Slovakia.

Mr. William Gilbert exhibited a seventeenth-century token of Potters Bar, Middlesex. It is unpublished, is in very fine condition, and is the first token known of this place.

Obv.—WILL . CLARKE . AT . YE . RED . a lion rampant.

Rev.—LYON . AT . POTTERS . BARR . HIS HALFE PENY 1667.

Miss Helen Farquhar read a paper on "John Rutlinger and the Phoenix Badge of Queen Elizabeth". (This paper was printed in the *Num. Chron.*, 1923, pp. 270-293.)

DECEMBER 20, 1923.

PROF. SIR CHARLES OMAN, K.B.E., M.P., LL.D., F.S.A.,
F.B.A., President, in the Chair.

The Minutes of the Meeting of November 15 were read and approved.

The following Presents to the Society were announced, and thanks ordered to be sent to their donors:

1. Archaeologia Cantiana, Vol. xxxvi.
2. Aréthuse, 1923, Pt. 1.

3. Bulletin de Correspondance Hellénique, 1923, i-vi.
4. Oxford Tradesmen's Tokens, by E. T. Leeds; *from the Author.*
5. Roman Coins, Vol. i, by H. Mattingly and E. A. Sydenham; *from Messrs. Spink & Son, Ltd.*

The National Museum of Wales was elected to the Society.

Mr. Percy H. Webb exhibited the following legionary coins of Carausius in bronze:

LEG II PARTH mm. M L Boar; LEG III Bull; LEG IIII FL. mm. M L, Lion; LEG IIII FL. Lion; LEG VII CL. Bull; LEG XXX ULPPIAVI, Neptune; LEG V . . . Boar.

Mr. Philip Thorburn exhibited two copies of Athenian tetradrachms with Aramaic inscriptions *Mazdi* and *Sargon*(?).

Rev. Edgar Rogers showed the largest bronze coin of Antiochus IV. *Rev.* Eagle, struck at Antioch 169-168 b. c., with the three smaller denominations of the same issue. The only other specimens of the largest piece is the Paris specimen and the one that was in the Bunbury collection.

Mr. L. G. P. Messenger showed the first half-crown and florin of the new South African mint, 1922; contemporary forgeries of a half-crown of Edward VI and of the Commonwealth; and a third brass of Constantine I, with *obv.* head radiate and *rev.* *VIRTUS EXERCIT.*

Mr. B. A. Seaby exhibited, on behalf of Messrs. Spink & Sons, a remarkable series of English coins, with mistakes in the legends, brockages and other curiosities of minting.

Mr. H. P. Hall exhibited a very fine selection of Roman coins in gold and brass, including aurei of Marius, Claudius Gothicus, Postumus, Diocletian, Victorinus (legionary) and Diadumenianus, and some fine large brass of Vespasian and Diadumenianus.

Mr. Webb read a note from Mr. Glen A. Taylor giving the analysis of a coin of Carausius from the Skewen find (*Proceedings*, Dec. 15, 1921) as follows: copper 85.8, lead 7.8, tin 4.39, iron 4.9, sulphur 1.16, and traces of zinc, arsenic, and nickel.

The President, Sir Charles Oman, read a paper on the "Legionary Coins of Victorinus, Carausius, and Allectus". (The paper is printed in this volume of the *Numismatic Chronicle*, pp. 53-68.)

JANUARY 17, 1924.

PROF. SIR CHARLES OMAN, K.B.E., M.P., LL.D., F.S.A.,
F.B.A., President, in the Chair.

The Minutes of the Meeting of December 20, 1923, were read and approved.

The following Presents to the Society were announced, and thanks ordered to be sent to the donors:

1. Antiquaries Journal, 1924, Pt. 1.
2. Bonner Jahrbücher, 1923, Vol. cxxviii.
3. Proceedings of the Society of Antiquaries of Scotland, Vol. lvii, 1922-1923.
4. Revue Numismatique, 1923, Pts. 3-4.
5. Syria, 1923, Pt. 4.

Mr. Robert M. Cunningham was proposed for election as a Fellow of the Society.

Mr. William Gilbert exhibited an unpublished seventeenth-century London penny token.

Obr. MARY MINCHING: a woman spinning.

Rev. IN THE MINORIES. M.M. 1671. 1 D.

The President exhibited one of two known specimens (the other is in Gotha) of the aureus of Tiberius restored by Trajan.

Mr. L. A. Lawrence exhibited an extensive series of forgeries in silver and lead impressions from Becker's dies of Greek, Roman, and Mediaeval coins.

Mr. Seaby, on behalf of Messrs. Spink & Sons, showed a series of lead impressions from Becker's dies from Roman coins, and a gold ring with Roman portrait thought to be from Becker's die for the aureus of Balbinus.

Mr. Valentine showed a series of gilt medalets made in France, illustrating Roman history, and specimens of the Jersey penny for 1923.

Dr. G. F. Hill read a paper entitled "Becker the Forger", in which he gave an account of the career of Karl Wilhelm Becker. Becker was born in 1772 at Speyer, and early showed a taste for art and antiquity, which he followed out by becoming a dealer in coins and antiquities, in spite of his father's endeavours to interest him in a mercantile career. He seems to have been highly esteemed, and was made librarian to the Prince of Isenburg, who also gave him the title of Hofrath in 1815. He was on terms of friendship with Goethe, who has left various references to his ability, and was fond of sitting and conversing with him while he was at work on his dies. As early as 1806 he seems to have been suspected of forging Greek gold coins, and in 1808 the Keepers of the collections in Milan and Dresden discussed the feasibility of exposing the maker of a certain group of forgeries which were becoming common, but no steps were taken in the absence of decisive proof. In 1825, Sestini issued a public warning against him, with a list of his forgeries. Becker had in the meanwhile suffered heavy financial losses, and went to Vienna to endeavour to sell his dies. While there he was connected with certain doubtful coins which had begun to circulate there, and he left hurriedly in 1826. He ended his days in Homburg. His professed object was to give a series of coins illustrating the history of art, the originals of which were beyond the reach of most people, and in proof of this he could call attention to the moderate price he charged for such sets. There is no reason to think that this was his only activity, and the intermediaries through whom many of the coins passed—if not actually his agents—were not so scrupulous. (Mr. Hill's study of Becker, with illustrations of his Greek forgeries, will be published by Messrs. Spink and Sons.)

FEBRUARY 21, 1924.

PROF. SIR CHARLES OMAN, K.B.E., M.P., LL.D., F.S.A.,
F.B.A., President, in the Chair.

The Minutes of the Meeting of January 17 were read and approved.

The following Presents to the Society were announced, and thanks ordered to be sent to their donors:

1. Aréthuse, 1924, Vol. i, Pt. 2.
2. L. Forrer. Biographical Dictionary of Medallists, Vol. vii; from Messrs. Spink & Sons, Ltd.
3. Fornvännen, 1922.

Mr. William Gilbert exhibited an aureus of Vespasian struck in A.D. 75, *rev. Bull*, a variety of Cohen No. 112, reading VESPASIANUS AUG. instead of VESP. AUG. (Rome Sale, Jan. 1924, lot 172); and an aureus of Julia Domna, not in Cohen, in gold, but similar to his 114 in silver (Rome Sale, Jan. 1924, lot 517).

Mr. Fredk. A. Harrison exhibited three gold ducats and two talers of various rulers named Sigismund, viz. Emperor Sigismund, ducats of Frankfort and Hungary, Sigismund Bathory, ducat of Transylvania, Sigismund Archduke, Sigismund, a ruler of the Tyrol, and a taler of Sigismund III, king of Poland.

Mr. Leopold Messenger showed a Bombay 5-cent piece in brass of 1791.

Mr. Fredk. A. Walters, F.S.A., showed a very fine series of large and second brass of the early Empire.

Mr. L. A. Lawrence, F.S.A., showed a series of coins to illustrate his paper.

Mr. L. A. Lawrence, F.S.A., read a paper on "Privy Marks on English Coins". In indentures for the coinage during the reign of Edward III to Henry VII, and perhaps for a longer period, a trial of the pyx was ordered to be held every three months, and a privy mark was to be placed on each coin. Theoretically, therefore, it should be possible, by

determining the privy marks, to assign the coins to the three months within which they were struck. In a few cases it had been possible to find privy marks covering a complete year, a pellet, annulet, or saltire being placed in a different quarter of the reverse for each quarter of the year. But so simple a form of marking was rarely found. Usually a combination of signs on obverse and reverse dies must be expected; such a system would economize dies, which would otherwise have been available for three months only. Various differential marks were noted which seem to be used in this way in combination for different quarterly periods.

A valuable guide to the classification of coins, and perhaps to identification of privy marks, might be found in the use of broken punches for forming letters in the inscriptions; the most common letters to find broken are c and e. The regularity with which broken letters occur on both gold and silver coins of the same period suggested a deliberate breaking of the letters as a means of differentiating coins so marked.

MARCH 20, 1924.

PROF. SIR CHARLES OMAN, K.B.E., M.P., LL.D., F.S.A.,
F.B.A., President, in the Chair.

The Minutes of the Meeting of February 21 were read and approved.

The following Presents to the Society were announced, and thanks ordered to be sent to their donors:

1. Journal of Hellenic Studies, 1923, Pt. 2.
2. Revue Belge de Numismatique, 1923, Pts. 3-4.
3. Rivista Italiana di Numismatica, 1923, Pts. 3 and 4.

Messrs. Charles J. Bunn and Edmund Nordheim were proposed for election as Fellows of the Society.

Mr. Leopold Messenger showed a bronze coin of Nicopolis in Epirus of the Emperor Nero with the *rev.* Victory crowning the name of the Emperor, the first known coin of the town between Augustus and Trajan.

Dr. Sidney Fairbairn showed a French medal of 1848 commemorating Louis Napoleon's demand when President for the dossiers of his attempts at Strasbourg (1836) and Boulogne (1840).

Mr. Fredk. A. Walters, F.S.A., showed two of the four known heavy pennies of Henry IV, both from the Highbury find and the Neck and Webb Collections.

Mr. William Gilbert exhibited a billon coin of Pacatianus. The coin shown (Cohen 6) was from the Vierordt Collection, and is one of the finest specimens known of this rare issue.

Mr. Gilbert also exhibited an unpublished tradesmen's token of the seventeenth century, of London, reading :

Obv. : ACBART . GOODSPEED—a shield of arms.

Rev. : IN . PVDDIN . LANE—a cross.

Messrs. H. Mattingly and F. S. Salisbury discussed the Plevna find of coins of Trajan Decius. Mr. Mattingly gave a short account of the circumstances of the find, and drew attention to several points of interest: to the presence in the find of a great mass of coins of the second issue of Trajan Decius, all in mint condition, and to the evidence to be derived as to the dates of the reign and as to the division of the mint into officinae. He showed how in the last two issues of Philip I six officinae were working, each striking one reverse type, I, II, V, VI for Philip I, III for Philip II, IV for Otacilia Severa. With these issues in view, he then studied in succession the three issues of Trajan Decius. He attempted to show that the same general principle of distributing types to officinae was still in force; different ranges of portraiture certainly went with different reverses, and were characteristic of different officinae. The series of "consecration" coins, once attributed to Gallienus, was

represented by two specimens in the find, and on grounds of style, too, must be attributed to the reign of Trajan Decius.

Mr. Salisbury sketched the main outline of the chronology of the reign, showing on what numismatic and epigraphic evidence it rests, and how the Plevna hoard contributes to assuring some dates. The fact that the hoard contained no coins of Trajan Decius of Balkan mintage was a strong confirmation of the statement of our historians, that Trajan Decius was misled into revolt by his troops, and honestly tried to keep faith with Philip. The issue of the "consecration" coins was naturally to be connected with the persecution of the Christians under Trajan Decius. As a rule, in the religious tests provided for the suspect, the question is one of sacrificing to the gods—there is no special mention of the deified Emperors; it was, however, probable that the imperial cult had a special importance in the army—and this would help to explain why Decius furthered it.

APRIL 17, 1924.

PERCY H. WEBB, Esq., M.B.E., Treasurer, in the Chair.

The Minutes of the Meeting of March 20 were read and approved.

The following Presents received since the last Meeting were announced, and thanks ordered to be sent to their donors:

1. American Journal of Archaeology, 1923, Pt. 4.
2. Antiquaries Journal, 1924, Pt. 2.
3. H. Gillingham: Italian Orders and Decorations; *from the Author.*
4. A. Mashny: *Obstetricia in Nummis; from the Author.*
5. Numismatic Circular, Vol. xxxi; *from Messrs. Spink & Sons, Ltd.*
6. Report of U.S. National Museum, 1922.
7. Zeitschrift für Numismatik, 1924, Pts. 3-4.

Messrs. Charles J. Bunn and Edmund Nordheim were elected Fellows of the Society.

Messrs. Ferriss P. Merritt and Hoyt Miller were proposed for election.

The evening was devoted to exhibitions.

Colonel H. W. Morrieson, F.S.A., exhibited the following rare coins:

Charles II : Crowns of 1665 anno XVI and XVII ; shilling of 1669 ; shilling of 1683 (small bust). William III: crown 1697 ; shilling 1696 (second Chester bust) ; sixpence 1699 (rev. plain). Anne: shilling of 1708 (Edinburgh, Burns' third bust).

Rev. Edgar Rogers exhibited a series of fine Greek bronze of Asia Minor, including Amisus, Sauromates I, Cotys II, Prusias II, Cyzicus, Pergamon, Clazomenae, Ephesus, Smyrna, Philadelphia, Attuda, Aemonia, Apamea, Philomelium, Perga (Julia Mamaea), Antioch (Pisidiae), Adona.

Mr. H. W. Taffs showed 523 varieties of Kent seventeenth-century tokens, and four trays of very fine or rare eighteenth- or nineteenth-century tokens, including three proofs in silver.

Mr. Lionel L. Fletcher showed a set of Thomason's medals (16) issued in 1828, illustrating science and mechanics, and two other similar medals illustrating astronomy and botany. Mr. Fletcher also showed series of copper coins of Rostock (44) and Goslar (14).

Mr. Percy H. Webb showed some fine bronze coins of Plautilla and Faustina II.

MAY 15, 1924.

PROF. SIR CHARLES OMAN, K.B.E., M.P., LL.D., F.S.A.,
F.B.A., President, in the Chair.

The Minutes of the Meeting of April 17 were read and approved.

The following Presents to the Society were announced, and thanks ordered to be sent to their donors:

1. Archaeologia Aeliana, Ser. III, Vol. xx, 1923.
2. W. Gieseke, Sicilia Numismatica.
3. Proceedings of the Cambridge Antiquarian Society, Vol. xxv.
4. Syria, 1923, Pt. 4.
5. Revue Numismatique, 1924, Pts. 1-2.
6. A. Mahieu, Numismatique du Congo: from the Author.

Messrs. Hoyt Miller and Ferriss P. Merritt were elected Fellows of the Society.

Mr. R. H. D'Elboux was proposed for election.

Messrs. W. Gilbert and G. C. Haines were appointed to audit the Society's accounts.

Mr. W. Gilbert exhibited a very fine second brass of Alexander, usurper in Africa A.D. 311. From the Weber Collection.

Obv. IMP. ALEXANDER P.F. AVG. Laureate head r.

Rev. GLORIA EXERCIT. KART. PK. Emperor on horseback r.

The President showed a set of five coins of Philip II: stater, tetradrachm, didrachm, drachm, and tetrobol.

Mr. V. J. E. Ryan showed two very rare Roman coins:

1. Denarius of Augustus.

Obv. CAESAR AVGVSTVS. Bare head l.

Rev. IOVIS TO(N). Jupiter standing to l. in temple of six columns.

2. Sestertius of Nero.

Obv. NERO CLAVD CAESAR AVG. GERM. P.M. TR. P. IMP. P.P.

Bust to l.

Rev. CONGI DAT POP s.c. Usual congiarium type.

Mr. Percy H. Webb showed a small collection of fourteen early Roman bronze coins, including an *aes rude*, three asses, and various fractions of the *as*.

Rev. E. A Sydenham showed in illustration of his paper thirteen specimens of *aes rude* (2) and *aes grave*, including a very fine *as* with the prow on *rev.* to the left.

Mr. Fredk. A. Harrison showed an interesting set of early Roman bronze, including an *aes rude*.

Mr. Lawrence showed imitations of the penny of the type of Alfred the Great, dated 1924, being struck in the Royal Mint exhibit at the British Empire Exhibition.

Mr. L. G. P. Messenger exhibited eight unpublished varieties of brass coins of Carausius.

The Rev. E. A. Sydenham read a paper on "The Aes Grave". *Aes rude* was used by the people of Central Italy (including the Romans) probably till after the middle of the fourth century B.C. From about 450 to 275 B.C. bronze bricks (*aes signatum*) existed concurrently with *aes rude* and *aes grave*, but cannot be regarded as transitional from one to the other. The Libral as (*aes grave*) was not introduced until after 335 B.C. Its nominal standard was probably Attic rather than Oscan. No reduction in the weight of the *as* seems to have been made before 275 B.C. Between 275 and 268 the weight of the *as* seems to have fallen rapidly. By the end of this period it was approximately that of a triens (4 ounces), but in practice it conformed to no fixed standard. Evidence shows that down to 244 B.C. asses of 3 or 4 ounces continued to be issued.

The denarius (268 B.C.) was probably equivalent to ten triental asses. It seems probable, however, that actually the denarius bore no direct relation to the cast pieces, but was part of a new struck coinage, of which the bronze factors were triens, quadrans, sextans, and uncia. At first the denarius seems to have been issued only in small quantities. Until the Second Punic War, issues of silver coins from the Roman mint appear to have been intermittent. Struck asses of the sextantal, or two-ounce standard, were introduced probably about 242 B.C.

JUNE 19, 1924.

ANNUAL GENERAL MEETING.

PROF. SIR CHARLES OMAN, K.B.E., M.P., LL.D., F.S.A.,
F.B.A., President, in the Chair.

The Minutes of the Annual General Meeting of June 21, 1923, were read and approved.

Messrs. Messenger and Valentine were appointed scrutineers of the ballot for the election of office-bearers for the following year.

Mr. Raymond Herbert d'Elboux was elected a Fellow of the Society.

The following report of the Council was laid before the Society:

The Council have again the honour to lay before you their Annual Report on the state of the Royal Numismatic Society.

It is with deep regret that they have to announce the death of the following Honorary Fellow of the Society:

Mr. Ernest Babelon
of a former President, Sir Henry Howorth, K.C.I.E.

and of the following five Fellows of the Society :

J. S. Buchan, Esq.
L. E. Bruun, Esq.
R. H. Forster, Esq.
W. R. Hubbard, Esq.
W. C. Weight, Esq.

They have also to announce the resignations of the following five Fellows :

A. R. Frey, Esq.
Richard Heming, Esq.
C. P. Hyman, Esq.
Capt. C. L. V. Marno.
M. Georges Rasquin.

On the other hand they have to announce the election of the following eight Fellows:

Charles J. Bunn, Esq.
 Robert M. Cunningham, Esq.
 Raymond Herbert d'Elboux, Esq.
 Miss Agnes Elverson.
 Ferriss P. Merritt, Esq.
 Hoyt Miller, Esq.
 Edmund Nordheim, Esq.
 The National Museum of Wales.

The number of Fellows is therefore:

	Ordinary.	Honorary.	Total.
June, 1923	278	11	289
Since elected	8	—	8
	286		297
Deceased	6	1	7
Resigned	5	—	5
	275	10	285

The Council have also to announce that they have decided to award the Society's Medal this year to Mr. Henry Symonds, F.S.A., in recognition of his services to English Numismatics, especially for his work on original documents relating to the coinages.

The Treasurer's Report which follows was then laid before the Meeting:

STATEMENT OF RECEIPTS AND DISBURSE.

FROM JUNE 1ST, 1923,

Dr.

THE SOCIETY IN ACCOUNT

	£ s. d.	£ s. d.
<i>To cost of Chronicle—</i>		
Printing	321 5 8	
Plates.	<u>36 11 6</u>	357 17 2
,, Binding Books		11 15 6
,, Rent		50 0 0
,, Refreshments		6 9 8
,, Insurance		1 10 0
,, Sundry Payments		<u>10 18 3</u>
		£488 10 7
<i>,, Balance in hand May 31, 1924—</i>		
General Account	222 7 11	
Research Account	<u>31 3 2</u>	253 11 1
		£692 1 8

MENTS OF THE ROYAL NUMISMATIC SOCIETY

TO MAY 31ST, 1924.

WITH PERCY H. WEBB, HON. TREASURER.

Gt.

	£ s. d.	£ s. d.
<i>By Balance in hand June 1, 1923—</i>		
General Account	186 10 5	
Research Account	29 12 2	
	—————	216 2 7
<i>By Subscriptions—</i>		
Ordinary	317 19 3	
Entrance Fees	6 6 0	
	—————	324 5 3
<i>By Contributions to cost of Plates and Binding</i>	16 0 0	
,, Donation	1 1 0	
,, Return of Income Tax 1920-23	32 9 10	
,, Sales of Chronicles	73 3 9	
<i>” Dividends on Investments—</i>		
” £942 London, Midland, and Scottish Railway 4% Preference Stock (less Income Tax)	28 19 3	
	—————	£692 1 8

PERCY H. WEBB, *Hon. Treasurer.*

Audited and found correct,

WILLIAM GILBERT,
G. C. HAINES, } *Hon. Auditors.*

June 5, 1924.

The Reports of the Council and of the Treasurer were adopted on the motion of the President.

Sir Charles Oman then presented the Society's Medal to Mr. Henry Symonds, and addressed him as follows :

Mr. Symonds,

It is with great pleasure that I now, for the third year in succession, place the medal which commemorates the high appreciation of the Society in the hands of one of its members. We are at the present moment most fortunate in possessing so many colleagues who have contributed in the highest degree to the advance of numismatic science.

You have been one of us for no less than forty years, and your earliest appearance in the journal of the Society goes back as far as the year 1886, when you gave us a note on a find of Roman 3rd brass at Leamington. But it is during the last fifteen years, from 1910 onward, that you have become a most constant and valued contributor to our publication. Your work has been mainly in documentary research concerning the early history of the English and the Irish mints, a form of study not too much practised by the ordinary coin collector, and therefore to be specially honoured by him, if he wishes to get knowledge and not merely to accumulate coins.

Your most important work relates to the documentary evidence for the history of the English coinage from Henry VII down to Elizabeth. By untiring personal research into the extant contemporary records of the currency you have extracted proclamations, indentures, Exchequer accounts, and accounts of the Wardens of the Mint, giving when placed together an authoritative history of the issues of all the Tudor sovereigns. Your work has thrown a new light on the classification of the series, and you have detected errors of dating and attribution which from Ruding downwards had slipped into all numismatic histories. That you have, in great part, left to others the task of drawing the deductions from your discoveries shows a reserve and self-abnegation which adds to the weight of your publication.

You have made a special study of the reports of Trials of the Pyx, and thus made available the most valuable source of information for the issues of the mint from Elizabeth to James II.

Six monographs by you on the coinage of the "Great Rebellion" have led to changes in the attribution of some important pieces of the Civil War. Most collectors will accept your transference of the so-called Lundy Island coins to Barnstaple or Appledore. And Shrewsbury owes to you the recovery of some siege-pieces hitherto given to Colchester.

But these are not all your contributions to our pages. You have collected a valuable series of notes as to the Engravers of the Tower mint in Tudor days, and have rearranged for us the very difficult story of the Irish coinage in the sixteenth century.

Your researches have been so wide and so thorough—I have even yet not touched upon all of them—that the Council of the Society was most eminently justified in awarding to you the token of its recognition of numismatic merit of the first class, and it is with great pleasure that I place the medal for 1924 in your hands.

Mr. Symonds then expressed his high appreciation of the honour conferred upon him by the Council in their award of the Society's medal. He would look back to that day as one of the happiest in his life, and the kindly words addressed to him by the President added to his happiness. There was much yet to be done in the way of historical research in the field of the British coinages, and as he had the good fortune to be attracted by the study of old documents side by side with a love of numismatics his path had been the more pleasant and easy to follow.

The President then delivered the following address:

THE PRESIDENT'S ADDRESS.

The statistics which the Council has just laid before the Society suffice to prove that the addition to our subscription

made three years ago has not, as was feared at the time, caused any serious diminution in our numbers. The resignations indeed in the session which is now reaching its end have been slightly fewer than those in its predecessor, and that, in its turn, showed a smaller loss in names than the list of 1921-22. I think, therefore, that the numbers of our Society may be considered as stabilized—to be accurate, our gross total of subscribing members is less by the negligible figure of four on a roll of 285 names—a figure that need cause us no concern. My only regret is that the recruits are not a little more numerous: perhaps the creditable increase in the size of the last volume of the *Chronicle* may have an inspiring effect on outlying coin-collectors. I am rejoiced to see that it counts 386 pages of text and 53 of "Proceedings", a total of 439, as against the meagre 314 of 1922, and we can certainly not be accused this year of supplying an insufficient *quid pro quo* for the subscriptions of those members who are unable to attend meetings in person, and rely on the printed word for their spiritual touch with the Society. The more fortunate dwellers in London have never had anything to complain of in recent years, as the meetings have maintained a high level of interest, owing to a series of papers of what I think may be called exceptional merit.

According to custom, I have to rehearse to you the names of those members whose loss by death we have had to deplore since I last delivered the Presidential summary of the year. The Society's obituary list does not attain to the melancholy pre-eminence in length which distinguished that of 1922. But it contains two names of great weight—one of an honorary and one of a subscribing fellow of the society.

The latter is that of Sir Henry Howorth, for many years one of our Vice-Presidents, of whose genial talent and many-sided energy I spoke at some length when reporting his decease to the Society last October. On his many services to numismatic as well as to general history I need not dilate again, but I ought to mention that, in memory of his long and affectionate connexion with us, his executors have

bestowed upon our library a very valuable selection of his books, including a complete set of the catalogues of the British Museum Coin Room. This duplicate series will be most valuable, as it will allow of the free lending of one of our two copies of each of the forty-four volumes: and every one who uses a volume of it will remember our much-respected President of 1908-13.

The honorary member of exceptional note whom we have lost this year is M. Ernest Babelon, the most distinguished of all French numismatists—perhaps of all continental numismatists. His honorary titles were many—Professor of the Collège de France, Membre de l'Institut, and of the Académie des Inscriptions, officer of the Legion of Honour, and for many years Curator of the Cabinet of Medals in the national collection at the Bibliothèque Nationale in Paris. He received the silver medal of our own Society as far back as 1899 for his services to Greek and Roman numismatics. He had reached the age of seventy, but was working hard on his chosen topics to the end. For many years he will be remembered for his great (and costly) historical introduction to Greek coins,—a magnificently illustrated work which carries out on a larger scale the scheme of Head's *Historia Numorum*,—as well as for his Catalogue of the Coins of the Roman Republic issued in 1885—the standard work on the subject until the appearance of Mr. Grueber's British Museum Catalogue. His *Kings of Syria and Commagene* was also a notable production, the first serious and scientific attempt to grapple with the many and difficult historical problems of the coinage of the Seleucidae. I must not linger to enumerate his minor works and monographs. Personally I have every reason to remember his courtesy while chief of the Paris Cabinet, and I doubt not that other members of the Society have the same pleasant memory of him. While numismatic literature endures he will be recorded as one of that group of scientific inquirers of the late nineteenth century who set the historic study of coins on the right path—along with Imhoof-Blumer, Head, Stuart Poole, and Percy Gardner—the one survivor of the generation.

I have with regret to enumerate five other fellows of the Society who have passed away during the last session. Mr. R. H. Forster, F.S.A., of Liskeard, who died in the summer of 1923, aged 56, had joined our ranks in 1912. A Northumbrian by birth, he was educated at Harrow and at St. John's College, Cambridge. His University career was most distinguished, for he gained a first class in the Classical Tripos in 1888, and in the following year was senior in the Law Tripos. He gained the McMahon Law Studentship in 1921, and was called to the Bar shortly after. He never practised, however, his literary and antiquarian tastes having drawn him away from the Courts. He was the author of several historical novels, mostly dealing with his native Northumberland, and of several volumes of poems. But the great work of his life was the excavation of the Roman town of Corstopitum (Corbridge) lasting over the seven years 1907-14. For the whole period he resided on the spot during the months in which digging was possible, and personally supervised every trench that was opened, and every stone that was revealed. The whole story of Corbridge is told in his series of annual reports to the Transactions of the Society of Antiquarians of Newcastle-on-Tyne, the most complete record of a great excavation by a single hand that has ever been produced. The discovery of the two large Corbridge finds of Roman gold coins attracted him to numismatics, and caused him to join our Society, although he never contributed to our Journal. His pen was retained for learned periodicals with which he had an earlier connexion, especially the Newcastle Transactions. Mr. Forster was not only an antiquary but an oarsman, rowing frequently for his college at Cambridge, and later for the Thames Rowing Club, of which he was secretary and later captain from 1896 to 1907.

Mr. W. R. Hubbard, who died last October, after a brief illness, had been one of our fellows for over 40 years. All his life he was a collector of wide interests. In addition to a good collection of Greek and Roman coins he had acquired many Egyptian and Greek antiquities.

Mr. J. S. Buchan, of Dundee, who died in January last, was an even older member than Mr. Hubbard, having been elected as far back as 1878. He had formed an extensive collection of Roman, English, Scottish, and Oriental coins, and a good numismatic library, all of which were dispersed at a sale at Dowell's Rooms in Edinburgh less than a fortnight ago.

Mr. W. C. Weight, who joined our Society in 1904, was one of the best known of the coin-dealers of the provinces—whose numbers have been rapidly reduced of late years, without any successors taking their places. He was in business first in Brighton, and later at Letchworth. His knowledge of coins was comprehensive, and the catalogues which he issued at intervals will be missed by his clients. His extensive stock was disposed of at Glendining's in two sales (July and September) of last year.

Our sixth deceased member, Mr. L. E. Bruun, of Copenhagen, was a collector of English and, more especially, of Anglo-Saxon coins, of which he possessed a fine cabinet. He joined our ranks in 1896, and for many years was a regular visitor to England. It is understood that his important Danish collection is ultimately to go to the Copenhagen Museum.

It is curious to find that of our lost members of the year no single one save Sir Henry Howorth had ever contributed to the *Chronicle*. I fear that this points to the fact that the proportion of fellows who help to maintain the literary work of the Society is a dwindling one. The editors are only too eager to welcome communications from new writers, and I believe that only modesty prevents many of our hitherto silent members from giving us the fruits of their research. They need not be long, or pretentious in their scope. Most collectors have some unpublished varieties, the cream of their cabinets, on which they might write a few lines, instead of merely exposing them for our admiration at one of our Thursday gatherings.

To proceed with the literary output of the Society during the session now just at an end, I must remark, as I did last

year, that our attention seems to be concentrating itself more than ever on the Roman section of numismatics. The fact may be explained by the recent appearance of two works of great merit dealing with the coinage of the Roman Empire. One is the British Museum Catalogue of its issues from Augustus to Vitellius, the work of Mr. Mattingly, of which I was able to give only too short a notice last June, since it had then only just appeared. The other is the *Roman Imperial Coinage*, vol. i., of Mr. Mattingly and the Rev. Edward Sydenham working in common, which we welcomed this spring. I feel something of a paternal interest in this last-named volume, as I demonstrated in my presidential address of 1920 that it was a moral and logical necessity that they should combine their knowledge for the service of the whole numismatic world, and for the particular profit and glory of our Society, which would be proud to count two such members working in collaboration. And my hope has now come to fruition with the appearance of Fasciculus I of their joint production.

I note that it adheres to the arrangement of coins by mints, and not by alphabetical sequence of the inscription on the reverse, which was introduced last year by Mr. Mattingly in his British Museum Catalogue of 1923. The determination of the precise number of mints which worked for Augustus, and—when this has been arrived at—the distribution of the coins under them, is (as every one concerned with Roman numismatics knows) no mean task. It is one, indeed, on whose details specialists differ, and will continue to differ: but I have no doubt that in a general way the results of Mr. Mattingly's and Mr. Sydenham's classification will be accepted. We shall all grant that for the future our coins of the early empire must be arranged under the four heads—mint of Rome, mints of Gaul, Spain, and the Orient. The new volume is in some ways intended to supersede Cohen's admirable but antiquated work as a general *Catalogue raisonné* of all Roman issues. And therefore every type cited has opposite to it a reference to the number under which it will be found in the first volume

of *Monnaies de l'Empire Romain*. But the sequence of coins is of course an absolutely new one, since the system of classification has been changed. The authors are to be congratulated in working together in perfect unison ; it is barely possible to discover from an occasional footnote a point on which they "agree to differ". We shall not miss in the new manual the estimate of current prices which Cohen placed opposite each piece. These valuations were often arbitrary, with no reference to the rarity or interest of the coin ; and for the gold series they had long ceased to have any meaning—the market worth of *aurei* of recent years having gone up on a much higher scale than that of silver or bronze. The only criticism which I can make on this valuable manual is that there are no "captions" at page-heads, or under the plates at the end. The eye, therefore, instead of seeing at once where the book has opened, by means of an indication of emperor and mint at the head of the page, has to rove around the text in order to discover, with some waste of time, what section the reader has hit upon. And this grievance is worse for the plates, where, for want of any indication of what the individual plate contains, the reader may have to set himself to look up in the index the particular type for which he is searching. And some important coins are not figured at all—e. g. those of Britannicus Caesar and Clodius Macer. These small omissions can, of course, be corrected with ease in the next *fasciculus* of a work which every collector of Roman coins must have upon his shelf.

But, as I was observing, it is undoubtedly the inspiration of these two recent books of Messrs. Mattingly and Sydenham which has been focusing the attention of the Society on Roman coins of late. I note that at our eight meetings of the past session we have had no less than five papers on that series, and that they range over the whole of it, from its first beginnings to the end of the third century A. D. Mr. Sydenham gave us a summary of the evidence on the earliest currency of the Republic, the *Aes Rude* and its successors. He came to the conclusion that the shapeless

blocks and lumps of bronze were used by the Romans, as by other peoples of central Italy, till after the middle of the fourth century B.C. Through most of the period bronze bricks (*Aes Signatum*) circulated concurrently both with the shapeless ingots and with the later round cast coins (*Aes Grave*), but the bricks are not to be regarded as a transitional currency between the earlier lumps and the later normal issues. The *Libral As* with Janus-heads and Prow was not introduced till after 335 B.C., and remained constant in weight for some fifty years. Only after 275 B.C. did it begin to shrink rapidly in size—so rapidly that by 244 B.C. it had fallen from nearly a pound in weight to between three and four ounces. The silver denarius, introduced in 268 B.C. was probably equivalent to ten asses of the “triental” standard. But actually it would seem to have borne no direct relation to the old cast issues, but to have been the base of a new standard currency, of which the small change was the struck (not cast) coins of the denominations of the Triens, Quadrans, Sextans, and ounce. These were followed about 242 B.C. by struck asses, weighing only two ounces, the so-called *Sextantal* series. But after the first Punic War the denarius was the real standard coin, so that exactness in the weight of the subsidiary bronze did not much matter, so long as the State and the public would change ten asses (of whatever size) for one denarius.

Mr. Mattingly's paper on the Republican coinage, given us in October last, fits into the middle of the period which Mr. Sydenham's covered, being an attempt to determine the precise date of the handsome silver issues with the inscription **ROMANO** or **ROMA** which have hitherto been usually styled “Romano-Campanian”. The majority are didrachms of good style, but there are also fractions in silver, and a corresponding set of bronze small change of the same date. In Head's *Historia Numorum* they are distributed over a long period, 335–268 B.C.; in Grueber's *British Museum Catalogue of the Coins of the Roman Republic* over another long period, beginning later and ending later—312 to 240 B.C. Mr. Mattingly wishes to concentrate them on a much shorter term of

years, those of the War with Pyrrhus 281 to 272 B.C. The primary objection to this theory is that the coins show great difference in artistic merit, and a considerable variety of types, so that it would seem reasonable to spread them over sixty years rather than nine. To this Mr. Mattingly's reply is that the series was not struck in one mint but in many, for the use of the armies of the confederation against Pyrrhus of which Rome was the head. The artists of a small south Italian town might be much less skilful than those of a great one, and cut far worse dies. And the decided difference of weight between the earliest and heaviest didrachms, and the latest and lightest, can be attributed to the stress of the war, not to a long lapse of years. The idea that the coins were issued by many mints sufficiently explains the variety of types; and in especial the Carthaginian types of the horse's head, and the free horse—common in this series but not in any other period—can be easily referred to the fact that the Republic was allied to Carthage in this alone of all her early wars. The policy of Rome in coinage, when she was fighting as the head of an Italian confederacy, needs to be carefully thought out, and this valuable paper may serve as a preliminary study of it.

Our third Roman paper, a joint contribution of Mr. Mattingly and Mr. F. S. Salisbury, was a discussion of a large and interesting find of coins of Trajanus Decius and his immediate predecessors, found at Plevna in Bulgaria last year. The majority of it consisted of "antoniniani"—if we may use that discredited word—of Decius himself, in the most beautiful mint condition. They were all struck at Rome, no local issues appearing, and had obviously been buried immediately after they reached the Moesian province. A careful examination of the hoard led to several useful deductions. The most important was that since it included several specimens of the well-known "Restitution" coins of early emperors, attributed in Cohen and elsewhere to Gallienus, all this series must be put back to 250, the second year of Decius, and we must resist the temptation to place them to the credit of the Emperor Philip, whose

great celebration of the 1000th year of Rome in 247 might so naturally be accompanied by the issue of a commemorative set of the portraits of all the "good" Emperors from Augustus to Severus Alexander. The immense number of coins of Decius himself rendered it possible to pick out by careful comparison six main types of workmanship in these contemporary pieces, which can reasonably be attributed to the six "officinae" of the Roman Mint. And this works in very well with the arrangement of that institution under Decius' predecessor Philip, where the numerals in the exergue of many "antoniniani", running up to six, show that four officinae (I, II, V, VI) were devoted to striking coins of Philip himself, one to coins of his wife Otacilia (no. IV) and one to those of his son Philip Junior (no. III). Different types of portraiture both under Philip and under Decius turn out to be the special marks of different "officinae".

The fourth Roman paper I contributed myself. It was an attempt to grapple with the problems of the coins of Victorinus and of Carausius which commemorate various legions, and bear their regimental badges. On an inspection of the names of these legions and their garrison-places, the curious fact emerges that both the Gaulish and the British usurper commemorated several legions whose head-quarters were in spots very remote from the area of their own power. Victorinus honoured corps stationed in Egypt and Syria, Carausius legions belonging to Pannonia and Italy. I tried to demonstrate that these coins must be considered "propaganda money" intended to familiarize distant troops with the idea that the usurper was favourable to them. The only other possible explanation—that detachments from these remote legions, "vexillationes", may actually have been serving in Gaul or Britain—I tried to show to be absolutely impossible in the existing military circumstances of A. D. 268 and 290.

A fifth short paper on a hoard of Roman coins from Crete by Mr. G. C. Haines must also have a word of notice.

We have had during the last year no paper read to the Society on Greek Coins, a nearly unprecedented phenomenon.

But although our esteemed Vice-President, the Keeper of Coins and Medals, has been prevented by the indisposition that we all deplore, from reading his "British Museum Acquisitions for 1923", it will take its place in the next volume of the journal. Instead of a Greek paper, however, we had read by him last January a contribution concerned with *false* Greek coins, a most interesting—and indeed humorous—survey of the career of the famous Karl Wilhelm Becker, whose counterfeits of rare Greek and Roman pieces still pervade all Europe, and are indeed not infrequently to be found in public as well as private collections. For this ingenious and unscrupulous person had a real talent for forgery, and, more especially in the line of Roman aurei and denarii, some of his productions might deceive the very elect. Mr. Hill showed us that "Hofrath" Becker, despite his official respectability and his conversations with Goethe, was a most dubious personage, and that his pretence that he only made acknowledged facsimiles, in order that collectors might fill empty holes in their trays with reproductions of unobtainable rarities, will not hold water for a moment. It is some comfort to know that forgery did not prosper, and that the Hofrath was to the end in well-deserved financial difficulties.

If we had no paper read to the Society on Greek coins this year, we have one of high importance published in the last number of the *Chronicle* for 1923. This was Mr. Whitehead's note on Indo-Greek numismatics, a contribution of great interest as containing an account of the remarkable find of tetradrachms near Kabul in 1917 which came into his hands. This hoard contained a great number of large Indo-Greek silver coins which were hitherto either unknown, or only represented by one or two specimens scattered in isolated cabinets. There were thirty of Archebius, eighteen of Strato, five of Strato and Agathocleia, ten of Heliocles in Indian style as opposed to the well-known Bactrian style. With other rarities there were two of King Peucolaus and two of Hermaeus and Calliope—absolutely new discoveries in the tetradrachm size. The number of known Indo-Greek tetra-

drachms of the whole series (if Menander, Hippostratus, and Hermaeus be excluded) must have been more than doubled by the advent of this Kabul hoard, and it is a pleasure to know that the bulk of it is now in the British Museum. The second half of Mr. Whitehead's paper consists of a summary of his conclusions as to the local positions of the kingdoms ruled by many obscure princes. Twenty years of careful registration of find-spots leads to the conclusion that there were at least three contemporaneous Indo-Greek kingdoms, one in the Kabul valley, one in the Peshawar-Attock region of the Punjab round Taxila, and a third further east (with Sangala, Sialkot, as capital), extending as far as the Beas or even the Ravi in the North-Central Punjab. The coins of many kings habitually found in the Kabul Valley are rare east of the Indus; those most frequent east of the Indus are not discovered in the Kabul region. The last-named district was much more prolific in the issue of large-size silver than the more eastern kingdom. Archebius, Strato, and Amyntas seem to have been Kabul-Valley kings; Lysias, Apollodotus, Philoxenes, and Diomedes, kings of the middle district. The East-Punjab kingdom was certainly ruled by Zoilus, Dionysius, and Apollophanes. Only exceptional kings like Menander seem to have united several kingdoms for a time. This outline of the localization of kings, by careful record of the spots where their money is found, is quite the most useful contribution to Indo-Greek numismatic knowledge that has appeared for some time. In default of all written records or inscriptions, the accurate observation of hoards is our only means for working out an obscure but most interesting corner of history.

To turn to more modern times, two of our meetings have been devoted to papers on English numismatics. In December last Mr. L. A. Lawrence read us a paper on "Privy Marks"—a subject much neglected in the past and promising important results. From a broad survey of the whole English coinage from Edward III to Henry VII Mr. Lawrence comes to the conclusion that we must not hope to find as a rule obvious differentiating marks

between the various coins of one general issue struck between successive "trials of the Pyx". Though a few such do exist, e.g. a minute pellet, annulet, or saltire placed in one of the cross-quarters of a penny, or spandrels of a noble, in the majority the form of ear-marking is far more obscure and difficult to discover. Mr. Lawrence thinks that the "secret mark" often consisted in the deliberate breaking of one of the letters of the inscription on obverse or reverse. What to the general public, or even to a forger copying a die, looked like a casual accident to a **G** or an **E**, may really be a deliberate chipping of the letter for purposes of identification. The regularity with which defective letters occur on both gold and silver coins of the same period suggests that we are not discovering carelessness in the use of a spoilt die, but an unobtrusive means of identification. By permutations and combinations of dies with a defect on obverse or on reverse, a considerable economy in the manufacture of them would be secured. This is most ingenious—obviously the main object of a "secret mark" is to be *secret*, and if it were made by inserting an abnormal stop or pellet or saltire an acute-eyed forger might discover it at once.

Our second contribution on the English series was from Miss Helen Farquhar, who gave us in November last a paper on "John Reutlinger and the Phoenix-badge of Queen Elizabeth", which was published in the last number of the *Chronicle*. The beautiful and elaborate badge figured in the British Museum Catalogue of Medals is identified by Miss Farquhar as the work of Reutlinger from a scarce line-engraving signed by him in the National Collection, in which the Queen is shown holding in her hand a badge, resembling this object in all respects save for the want of an inscription—too minute a thing to be repeated in the representation of a full-length figure. Now the engraving is signed by John Reutlinger, and this name is that of the under-graver at the Tower Mint from 1596 to 1609. This is exactly the sort of person who would have been selected to execute a decoration to be given by the Queen, or, on the other hand, to be presented to her by loyal subjects. Reut-

linger may have made it several years before he was taken into employment at the Mint, as he was probably the son of an Erart Rutlinger who appears in 1568 as an exiled Dutch goldsmith—probably a Protestant refugee—domiciled in London. This is made almost certain by his being called Rutlinger “*alias Eareth*” in one document, obviously by a slight perversion of his father's name.

Beside the papers read to us at meetings, English numismatics were represented to us this year by two contributions printed in the *Chronicle*. The first is a continuation of Mr. Brooke's list of coins of Heptarchic kings acquired by the British Museum since the first volume of its Anglo-Saxon Catalogue was published. The most curious specimens are the Kentish coins without the name of either a king or archbishop, bearing a head to right surrounded by the name of a moneyer, and on the reverse **DOROBERNIA CIVITAS**. Is this head that of a king or an archbishop? As it is not tonsured but diademed, presumably the former, the diadem being similar to that seen on the head of King Cuthred. If so the coins may represent the moment when Kent had shaken off the Mercian overlordship, but not yet formally elected Ecgbert of Wessex as king, i.e. to the years A.D. 823–825. All the moneyers concerned afterwards struck coins for Ecgbert, on his acknowledgement as ruler of Kent after the battle of Ethandun.

Mr. Brooke also favoured us with another printed contribution, on some obscure points of the dating of certain Irish and English issues of Henry VIII, mainly on the exact point of time on which the earliest coins of the two realms bearing the title *Hibernie Rex* instead of *Dominus Hibernie* were actually put out. There seems some reason to think that 1544 and not 1542, as supposed hitherto, is the true date of the appearance of the English issues with the facing portrait.

Our exhibitions this year have been, I think, of more than ordinary interest. Our old friends the Treasurer, Colonel Morrieson, Mr. Rogers, and Mr. Lawrence have all given us of their best. For my own part as a collector of

things Roman, I preserve a special memory of Mr. Gilbert's Pacatian and his follis of the usurper Alexander, and of Mr. Hall's gold aureus of Marius, and legionary aureus of Victorinus. An occasional "exhibition night" is (I think) a very stimulating change for the Society, and enables us to realize the wealth of our friends' cabinets.

To turn aside to the more general features of numismatic history during the past year, the most important and at the same time the most disheartening phenomenon is undoubtedly that London has now definitely ceased to be the central mart for Greek and Roman coins. There were signs of this long before the War, when collections that would once have been brought to London were sold at Munich and other centres. But important coin-sales continued to take place here even down to 1922. They have now practically ceased, and the once familiar rooms of Sotheby's have not invited us for a visit more than once or twice this year. That English collections should be sold abroad is a very dispiriting fact. I used to enjoy my hours spent at a good coin auction, even when I bought no single lot. There is considerable interest in seeing other people compete, even when one is forced to stand aside oneself. And I cannot think that the fact that coins destined to be sold in Lucerne or Geneva may be exhibited beforehand in London is any adequate consolation to the collector. To send a bid weeks ahead to a foreign sale is a very tame and flat business compared with the presenting oneself in the auction room to enjoy all the pleasures of "the Aleatory". There is all the difference between seeing a horse race oneself, and reading of it some days later in the newspaper. For my own part I have always enjoyed a cheap and successful purchase at an auction four times as much as a similar bargain carried out by the post. Perhaps this is not a confession that reflects much credit on one's psychology as a numismatic student: but as a collector I am sure that there are many present who will sympathize with me. I may add that when coins for a sale abroad are *not* exhibited in London, as is more often the case than not, one runs a certain risk in purchasing from

mere photographic reproductions. For a discoloured or slightly oxidized coin often looks much better in its plaster cast, which the photograph reproduces, than in its own proper person. I have known disappointments to purchasers to arise from this simple fact. I suppose collections of English coins will still continue to be sold in the local market: but this is a poor consolation to one whose interests are centred almost entirely in the Roman and Greek series, which will obviously be for the future unobtainable in any quantity (or quality!) in London sales.

The national coinage still continues in an unsatisfactory condition, as any one must grant who asks for five pounds worth of "silver" at his bank. In every large bulk of fractional currency, at present, there is always a certain proportion of the discoloured issue of 1920-22, a few of the worst or brown-tarnished original series of base money, but many more of the pale lemon-coloured pieces of more recent years. There is now commencing to leaven the mass a quantity of the newest currency, that of comparatively good colour, but with the King's head in very low relief. It contrasts favourably with its predecessors, but if (as I am told) the surface whiteness is procured by coating the core with an extra allowance of silver, I fear that when the outer skin has been rubbed down by two or three years of attrition in the hands of the public, the parts on which the fingering tells most will show the different hue of the inner metal, and so produce the same sort of bi-coloured effect to be noted on the base testoons of Henry VIII, or the silver-coated billon currency of Postumus and Gallienus. Experience only can show whether this fear is justified.

Meanwhile, leaving the currency as a hopeless question, let us at least congratulate the Mint on having obtained by competition some medals of a better sort than we have lately seen, in commemoration of the Imperial Exhibition at Wembley, and other official institutions or ceremonies. They are shown in the interesting little chamber appropriated to the Mint, which lies at the back of the Government Pavilion at Wembley, which no doubt many of those present

have already visited. Alongside of them there is functioning a clever reproduction of an Anglo-Saxon mint, which is striking with the old methods of hammer and die pennies of King Alfred. To my mind they are a good deal too good, for except that they are made of a tin alloy instead of silver, they are most admirable reproductions of the original. The only differentiating mark is a microscopic 1924 under the king's shoulder—so small that it can only be made out with a magnifying glass. I cannot but think that some of these excellent copies of the art of A.D. 900 will gradually drift into the hands of unscrupulous antiquity dealers, and deceive young and incautious collectors. For the difference of metal is no protection while the tin is bright, and the weight is within a grain or two of that of the original. I suggested that a much larger "1924" might be placed on the reverse of the coin, and the Deputy-Master tells me that this protection against fraud has now been made in the latest issues. When I asked a question about this in the House of Commons, the Chancellor of the Exchequer replied that there could be no difficulty in telling the copy from the original, because tin can be bent so far more easily than silver. This reply showed a marvellous lack of practical knowledge of coins, for who would be so mad as to *bend* a coin which might by any possibility be genuine! He would thereby, if it turned out *not to* be a forgery in soft metal, either reduce its value in the market, or quite probably break it. I suppose that most of us have a sad episode somewhere in our memory concerning an attempt to straighten a bent Anglo-Saxon coin, and its deplorable results.

I must express my regret to the Society that this address has had to be rather roughly thrown together. For a month I have not had a day that was at my own disposition for quiet writing, and my summary has had to be written by fits and starts in a dozen different places—largely in the lobby of the House of Commons, which is not a good spot for continuous literary composition. It could not have been written at all without the Secretary's invaluable notes, for which I owe him my most hearty thanks. But if a parlia-

mentary crisis chooses to plant itself in the middle of a number of other political engagements, and unexpected private worries and distractions supervene, it is clear that the leisure needed for a complete general survey of the numismatic year is unobtainable—most of all because I have been prevented again and again from writing in my own study, among my own collection of numismatic books and periodicals. For any shortcomings due to this want of undisturbed hours, your president must make his apology, and beg for your indulgence.

Mr. Fredk. A. Harrison proposed and Colonel H. W. Morrieson seconded a vote of thanks to the President for his address.

The result of the ballot for office-bearers for 1923-1924 was announced as follows :

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